MHC-7900/P100X

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
MHC-7900
E Model
Australian Model
Tourist Model
MHC-P100X

These systems are composed of following models.
As for the service manual it is issued for each component model, then please refer to it.

COMPONENT MODEL NAME FOR THESE SYSTEM

	MHC-7900/P100X
TUNER	ST-H7900
CASSETTE DECK	TC-H7900
CD Player	CDP-H7900
PRE AMP	TA-H7900E
SPEAKER with POWER AMP	SA-H7900

SPECIFICATIONS

General

Power requirements	240V AC, 50 Hz (UK model) 220 — 230V AC, 50/60 Hz (AEP model) 120V AC, 60 Hz (US, Canadian model) 110 — 120V or 220 — 240 V, AC Adjustable 50/60 Hz (Other Countries)
Power consumption	180W

Supplied accessories
AM loop aerial (antenna) (1)
Remote commander RM-S970X (1)
Sony SUM-3 (NS) batteries (2)
FM lead aerial (antenna) (1)
Flat cord (1)
Audio cord (4)
(50 cm, for connecting components)
Audio cord (SA) (4)
(2m, for connecting speaker) (Except UK model)
(3.5m, for connecting speaker) (UK model)
Power cord (SA) (2)
(2m) (Except UK model)
(3.5m) (UK model)

Designs and specifications are subject to change without notice.

MINI HI-FI COMPONENT SYSTEM

SONY®

PARTS LIST

NOTE:

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- CND : Canadian model
- G : German model
- IT : Italian model
- AUS : Australian model
- EA : Saudi Arabia model
- MY : Malaysia model
- SP : Singapore model
- JE : Tourist model
- AEP1 : French, Netherlands model
- AEP2 : Other continental Europe model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS ********************************	
	1-467-351-11	REMOTE COMMANDER (RM-S970X)	
	1-501-369-11	ANTENNA (FM) (AEP, UK, G, IT)	
	1-501-374-11	ANTENNA, LOOP	
	1-501-659-11	ANTENNA (FM) (US, CND, E, AUS, EA, MY, SP, JE)	
	1-558-271-11	CORD, CONNECTION (AUDIO 108cm)	
⚠	1-569-007-11	ADAPTER, CONVERSION 2P (E, JE)	
⚠	1-569-008-11	ADAPTER, CONVERSION 2P (EA, MY, SP)	
⚠	1-575-131-11	CORD, POWER (SA) (AEP, E, SP, MY, G, IT, AUS, JE)	
⚠	1-575-706-11	CORD, POWER (SA) (US, CND)	
	1-751-541-11	CORD (WITH CONNECTOR) (5P-5P-5P-5P)	
	1-751-598-11	CORD, CONNECTION (PIN-PIN) (SA) (US, CND, AEP, E, SP, MY, G, IT, AUS, JE)	
⚠	1-765-371-11	CORD, POWER (3.5m) (SA) (UK)	
*	1-765-371-21	CORD, POWER (10m) (SA) (UK)	
	1-765-388-11	CORD, CONNECTION (PIN-PIN:3.5m) (SA) (UK)	
*	1-765-455-11	CORD, CONNECTION (PIN-PIN:10m) (SA) (UK)	
	3-757-684-11	MANUAL INSTRUCTION (English, French, Spanish, Portuguese) (AEP, UK)	
	3-757-684-21	MANUAL, INSTRUCTION (English, French) (US, CND)	
	3-757-684-41	MANUAL INSTRUCTION (German, Datch, Swedish, Italian) (AEP, G, IT)	
	3-757-684-51	MANUAL INSTRUCTION (English, French, Spanish, Chinese) (E, AUS, EA, MY, SP, JE)	
	3-757-684-61	MANUAL INSTRUCTION (Korean, Portuguese) (JE)	
	3-757-684-71	MANUAL INSTRUCTION (Arabic) (EA)	
	3-758-615-11	MANUAL, INSTRUCTION (SA) (English/French/German/Italian/Spanish/Dutch/Swedish/Portuguese/Arabic/Chinese/Korean)	
	4-956-911-11	LID, SLIDE (for RM-S970X)	
*	4-961-899-01	CUSHION (SD) (FRONT) (CDP, ST)	
*	4-961-900-01	CUSHION (SD) (REAR) (CDP, ST)	
*	4-961-901-01	CUSHION (TT) (FRONT) (TA, TC)	
*	4-961-902-01	CUSHION (TT) (REAR) (TA, TC)	
*	4-961-905-01	CUSHION (UPPER) (SA)	
*	4-961-906-01	CUSHION (LOWER) (SA)	
*	4-964-726-01	INDIVIDUAL CARTON (CDP, ST, TA, TC) (AEP1, UK)	
*	4-964-727-01	INDIVIDUAL CARTON (CDP, ST, TA, TC) (US, CND)	
*	4-964-728-01	INDIVIDUAL CARTON (TA, TC) (AEP2, G, IT)	
*	4-964-729-01	INDIVIDUAL CARTON (CDP, ST) (AEP2, G, IT)	
*	4-964-730-01	INDIVIDUAL CARTON (CDP, ST, TA, TC) (AUS)	
*	4-964-731-01	INDIVIDUAL CARTON (CDP, ST, TA, TC) (E, EA, MY, SP)	
*	4-964-732-01	INDIVIDUAL CARTON (SA) (AEP, UK, G, IT, AUS)	
*	4-964-733-01	INDIVIDUAL CARTON (SA) (US, CND)	
*	4-964-734-01	INDIVIDUAL CARTON (SA) (E, SP, MY)	
*	4-966-212-01	INDIVIDUAL CARTON (CDP, SA, ST, TA, TC) (JE)	
*	4-966-213-01	INDIVIDUAL CARTON (SA) (JE)	
*	4-967-018-01	INDIVIDUAL CARTON ((CDP, ST, TA, TC) (SA)) (CND)	

Only UK model is prepared 10 meter power cord for UK customer in order to use further way between PRE AMP and Speakers.

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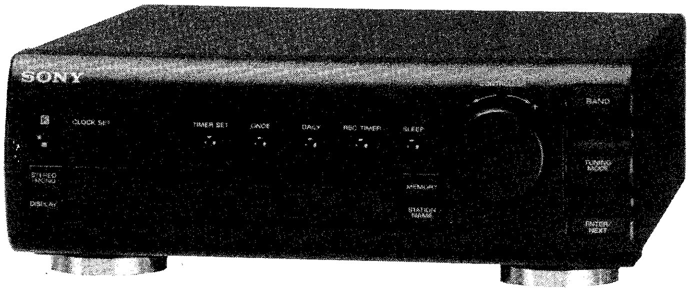
Sony Corporation
Audio Group

ST-H7900

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model
Tourist Model



This set is the tuner section
in MHC-7900/P100X

SPECIFICATIONS

Tuner

US and Canadian models
FM stereo, FM/AM superheterodyne tuner
UK and European models
FM stereo, FM/MW/LW superheterodyne tuner
Other countries model
FM stereo, FM/MW/SW superheterodyne tuner

FM tuner section

Tuning range	87.5 – 108.0 MHz
Antenna terminals	75 ohm unbalanced
Intermediate frequency	10.7 MHz

AM tuner section

US and Canadian models

Tuning range	530–1,710 kHz (with the AM tuning interval set at 10 kHz) 531–1,602 kHz (with the AM tuning interval set at 9 kHz)

UK and European models (except Germany and Italy):

MW:	531 – 1,602 kHz
LW:	153 – 279 kHz

German model:

AM:	531 – 1,602 kHz

Italian model:

AM:	522 – 1,611 kHz

Other countries model:

MW:	531 – 1,602 kHz (with the MW tuning interval set at 9 kHz)
SW:	5.95 – 17.90 MHz

Aerial (Antenna)	AM loop aerial (antenna) External aerian (antenna) terminals
Intermediate frequency	450 kHz
Dimensions	Approx. 225 x 85 x 240 mm (w/h/d) (8 7/8 x 3 3/8 x 9 1/2 inches)
Mass	Approx. 1.4 kg (3 lb 1 oz)

Design and specifications are subject to change without notice.

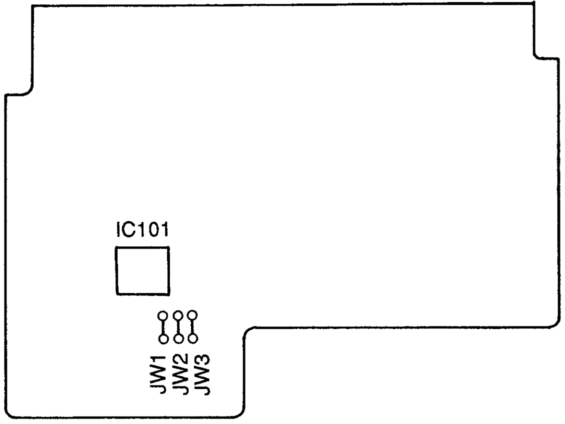
TUNER

SONY®

MODEL IDENTIFICATION

— MAIN BOARD —

MAIN BOARD (SOLDERING SIDE)



	JW1	JW2	JW3
US,CND	MOUNTED	NONE	NONE
AEP, UK	MOUNTED	NONE	MOUNTED
E, AUS, EA JE, SP	MOUNTED	MOUNTED	NONE
G	NONE	NONE	MOUNTED
IT	NONE	MOUNTED	MOUNTED
MY	MOUNTED	MOUNTED	NONE

CND : Canadian model
AUS : Australian model
EA : Saudi Arabia model
JE : Tourist model
SP : Singapore model
G : German model
IT : Italian model
MY : Malaysia model

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

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SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNDÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.

2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

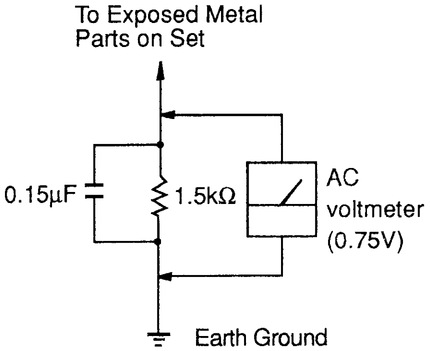


Fig. A. Using an AC voltmeter to check AC leakage.

SECTION 1
SERVICING NOTE

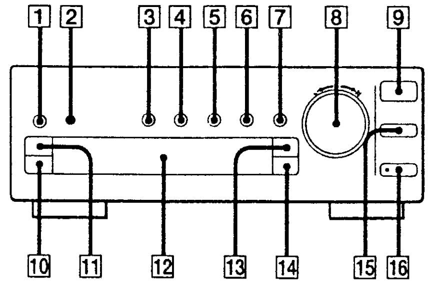
- **Power Supply Used In Servicing**

This unit does not have its own power supply. As it works on the power supplied from the amplifier (TA-H7900E) used for this series, connect this amplifier when servicing the unit (conduction repair, etc.).
Power can also be supplied by connecting the "CDP/TC" connector of the conduction tool (PFJ-1). The following three items are required for this connection.
  - J-2501-063-A
  - 1-696-741-11 CORD, (WITH CONNECTOR)
  - 1-751-541-11 CORD, (WITH CONNECTOR)

SECTION 2
GENERAL

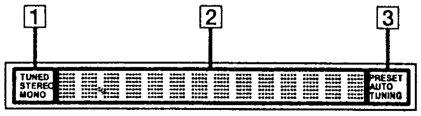
This section is extracted from instruction manual.

Front Panel



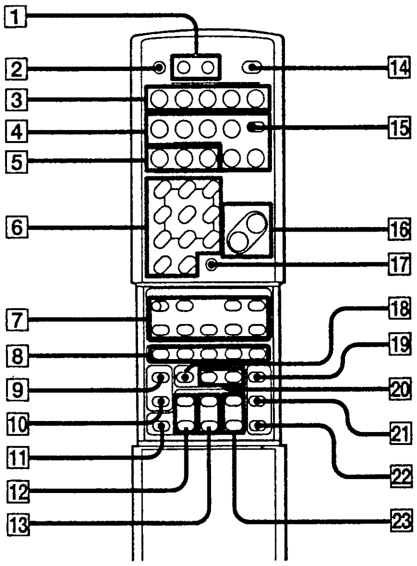
1 Remote sensor
2 CLOCK SET button (6)
3 TIMER SET button (25)
4 ONCE button* (25)
5 DAILY button* (25)
6 REC TIMER button* (26)
7 SLEEP button* (25)
8 CONTROLLER control* (6, 10, 25)
9 BAND button (10, 16)
10 DISPLAY button (6, 11)
11 STEREO/MONO button (10)
12 Display window (6, 10)
13 MEMORY button (11)
14 STATION NAME button (11)
15 TUNING MODE button (10)
16 ENTER/NEXT button* (6, 11, 25)

Display Window



1 Receiving status indication (10)
2 Frequency/station name/time indication (10, 25)
3 Tuning mode indication (10)

Remote commander



1 TAPE DECK A/B buttons (12)
2 SLEEP button (25)
3 CD/MD operating buttons (7, 16)
4 Cassette deck operating buttons (12)
5 Tuner operating buttons (11)
6 CD/Tuner/LPC numeric buttons (8, 11, 22)
7 VCR operating buttons (28)
8 TV operating buttons (28)
9 AUDIO FUNCTION button (28)
10 VIDEO FUNCTION button (28)
11 TEST TONE button (23)
12 REAR LEVEL +/– buttons (23)
13 CENTER LEVEL +/– buttons (23)
14 SYSTEM POWER switch (7)
15 CD/MD switch (7)
16 VOLUME +/– buttons (7)
17 LPC (Listening point control) button (22)
18 DIRECT button (18)
19 CHECK button (8)
20 MENU +/– button (18)
21 CLEAR button (8)
22 REPEAT button (9)
23 DELAY TIME +/– button (23)

SECTION 3
ELECTRICAL ADJUSTMENTS

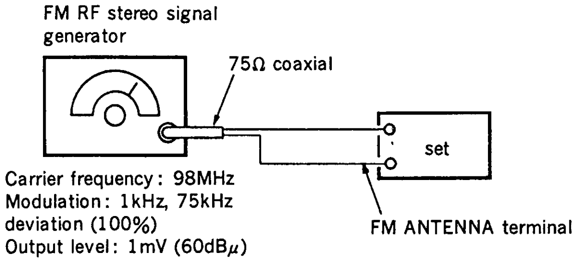
Precautions in Repairing

If the front end unit fails, it is difficult to repair the inner circuits, so replace the entire front end unit.

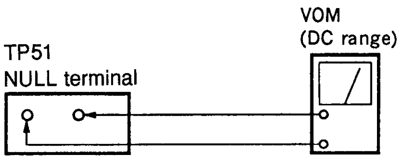
FM SECTION

FM Discriminator Adjustment (NULL Adjustment)

Setting:
BAND: FM


FM RF stereo signal generator
75Ω coaxial
set
FM ANTENNA terminal

Carrier frequency: 98MHz
Modulation: 1kHz, 75kHz deviation (100%)
Output level: 1mV (60dBμ)

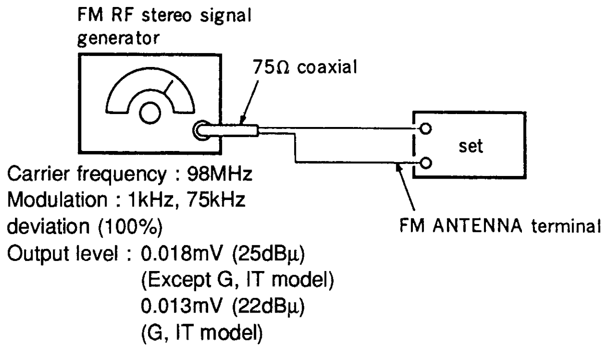

VOM
(DC range)
TP51
NULL terminal

Procedure:
1. Tune the set to 98MHz.
2. Adjust IFT51 for 0Vdc reading on the VOM.

Note: FM Tuning Level adjustment should be made after FM discriminator alignment.

FM Tuned Indication Lighting Level

Setting:
BAND: FM

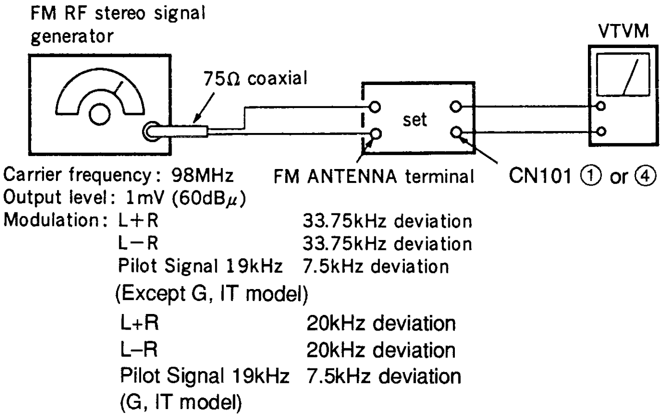

FM RF stereo signal generator
75Ω coaxial
set
FM ANTENNA terminal

Carrier frequency : 98MHz
Modulation : 1kHz, 75kHz deviation (100%)
Output level : 0.018mV (25dBμ)
(Except G, IT model)
0.013mV (22dBμ)
(G, IT model)

Procedure:
1. Tune the set to 98MHz.
2. Adjust RV52 so that the TUNED indicator goes on.

FM Stereo Separation Adjustment

Setting:
BAND: FM


FM RF stereo signal generator
VTVM
75Ω coaxial
set
FM ANTENNA terminal
CN101 ① or ④

Carrier frequency: 98MHz
Output level: 1mV (60dBμ)
Modulation: L+R 33.75kHz deviation
L−R 33.75kHz deviation
Pilot Signal 19kHz 7.5kHz deviation
(Except G, IT model)
L+R 20kHz deviation
L−R 20kHz deviation
Pilot Signal 19kHz 7.5kHz deviation
(G, IT model)

Procedure:
Tune the set to 98MHz.

FM stereo Signal generator Output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV53 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV53 for minimum reading.

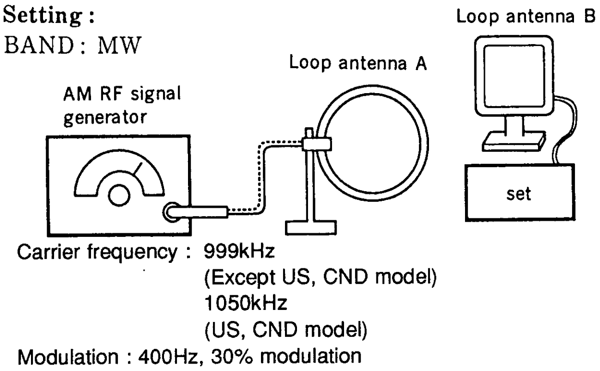
L-CH Stereo separation: Ⓐ—Ⓑ
R-CH Stereo separation: Ⓒ—Ⓓ

The separations of both channels should be equal.

AM SECTION

AM Tuned Indication Lighting Level

Setting:
BAND: MW


Loop antenna B
Loop antenna A
AM RF signal generator
set

Carrier frequency : 999kHz
(Except US, CND model)
1050kHz
(US, CND model)
Modulation : 400Hz, 30% modulation

Procedure:
1. Set loop antenna A so that the loop antenna B input level becomes 55dBμ/m (0.6m V/m).
2. Tune the set to 1050kHz (US, CND model) or 999kHz (Except US, CND model).
3. Adjust RV51 so that the TUNED indicator goes on.

SW Control Voltage Adjustment (Frequency Coverge Adjustment) (E, AUS, EA, MY, SP, JE model)

Setting :
BAND : SW

Procedure :

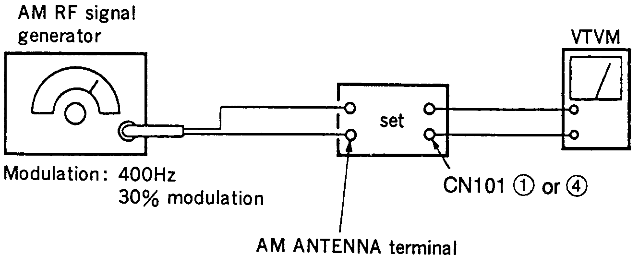
1. Connect digital voltmeter to diode D1 center lead and ground.
2. Adjust for a following value reading on digital voltmeter.

	Set frequency	Adjustment part	Reading on digital voltmeter
SW	f min. 5.95MHz	T2	1.2Vdc
	f min. 17.9MHz	CV2	8.5Vdc

Note .
CND : Canadian model
IT : Italian model
G : German model
EA : Saudi Arabia model
SP : Singapore model
MY : Malaysia model
AUS : Australian model
JE : Tourist model

SW Tracking Adjustment (E, AUS, EA, MY, SP, JE model)

Setting :
BAND : SW


AM RF signal generator
VTVM
set
Modulation: 400Hz
30% modulation
CN101 ① or ④
AM ANTENNA terminal

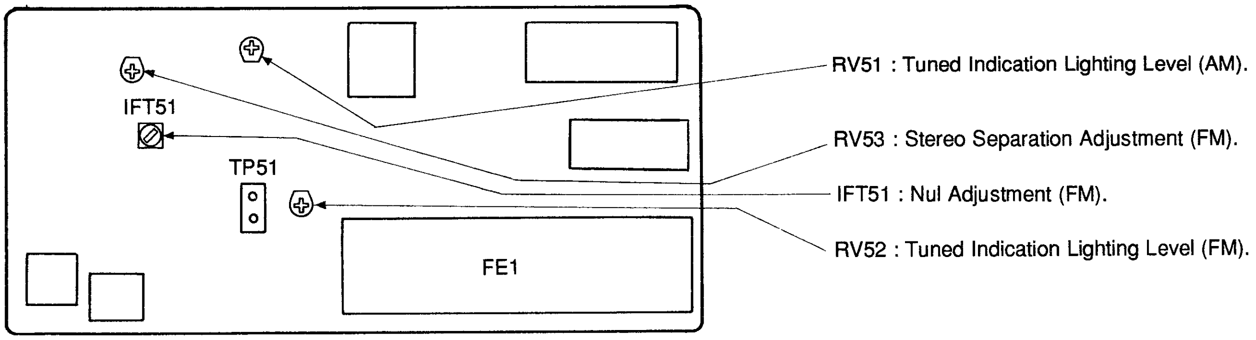
Procedure :
Adjust for a maximun reading on VTVM.

	Set frequency	Adjustment part
SW	f low. 7MHz	T1
	f high. 17MHz	CV1

- Repeat the procedures is each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

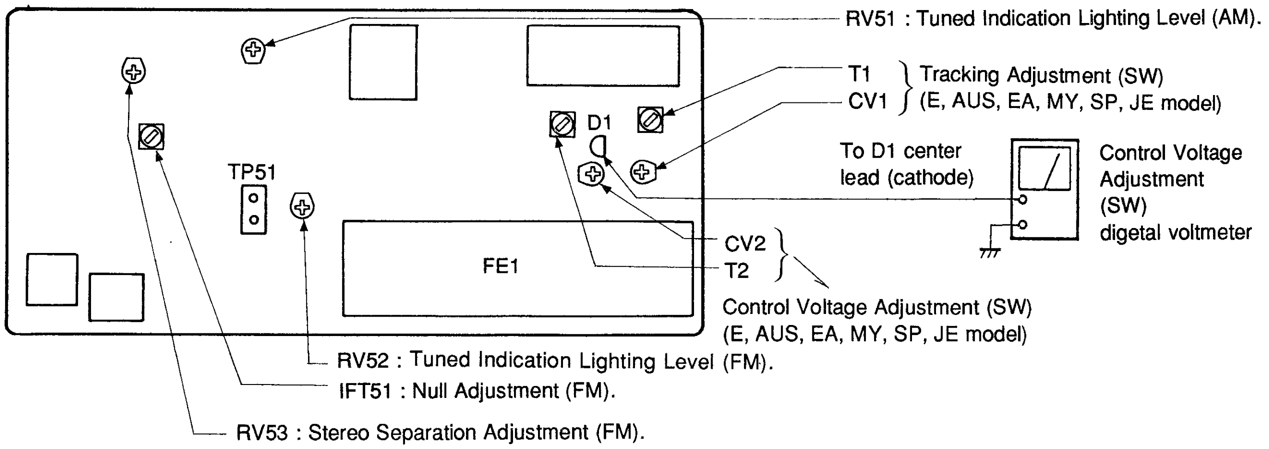
Adjustment Location :

TCB BOARD (AEP, UK, G, IT model)
— Component Side —


IFT51
TP51
FE1
RV51 : Tuned Indication Lighting Level (AM).
RV53 : Stereo Separation Adjustment (FM).
IFT51 : Nul Adjustment (FM).
RV52 : Tuned Indication Lighting Level (FM).

Adjustment Location :

TCB BOARD (US, CND, E, AUS, EA, MY SP JE model)
— Component Side —


RV51 : Tuned Indication Lighting Level (AM).
T1
CV1
Tracking Adjustment (SW)
(E, AUS, EA, MY, SP, JE model)
D1
TP51
To D1 center lead (cathode)
Control Voltage Adjustment (SW) digetal voltmeter
FE1
CV2
T2
Control Voltage Adjustment (SW)
(E, AUS, EA, MY, SP, JE model)
RV52 : Tuned Indication Lighting Level (FM).
IFT51 : Null Adjustment (FM).
RV53 : Stereo Separation Adjustment (FM).

SECTION 4
IC PIN FUNCTIONS

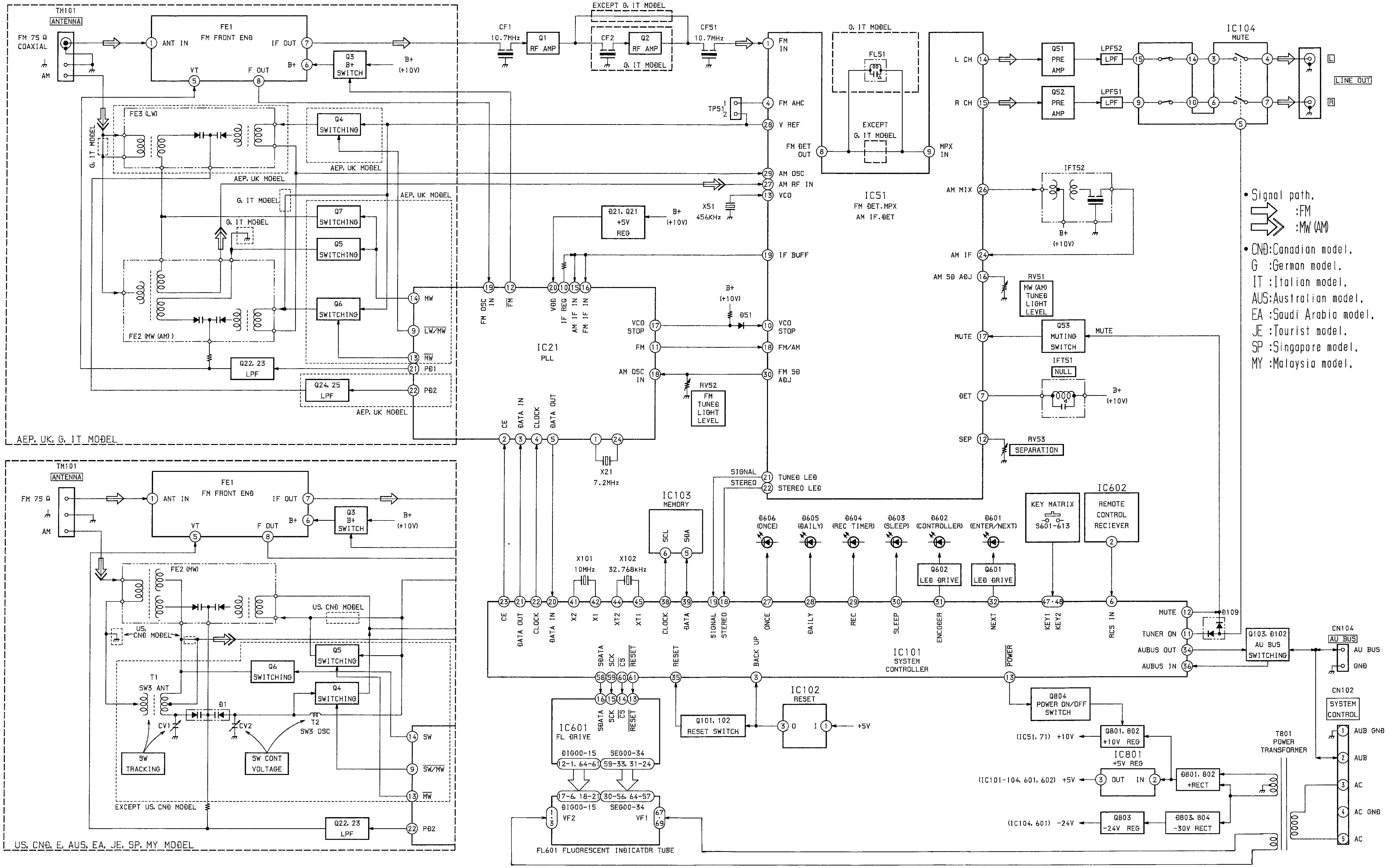
4-1. IC PIN FUNCTIONS

- **IC101 Tuner System Controller (μPD78012BGC-627-AB8)**

Pin No.	Pin Name	I/O	Function
1	IF+50	I	Connected to GND.
2	IF–50	I	
3	BACK UP	I	Backup input
4	NC	–	Not used. (Open)
5	NC	–	
6	RSC input	I	Remote control input
7	——	–	Not used. (Open)
8	——	–	
9	Vss	–	GND
10	——	–	Not used. (Open)
11	TUNER ON	O	Tuner ON
12	MUTE	O	Mute output
13	$\overline{\text{POWER}}$	O	Power ON/OFF output. "L":ON, "H":OFF.
14	IFNG	O	Not used. (Open)
15	AM/FM	O	
16	AM MONO	O	
17	AM	O	
18	STEREO	I	STEREO input
19	SIGNAL	I	SIGNAL input
20	DATA input	I	Data input from IC21 (PLL)
21	DATA output	O	Data output to IC21 (PLL)
22	CLOCK	O	CLOCK output to IC21 (PLL)
23	CE	O	CE output to IC21 (PLL)
24	Vss	–	GND
25	NC	–	Not used. (Open)
26	NC	–	
27	ONCE	O	ONCE LED (D606) drive output
28	DAILY	O	DAILY LED (D605) drive output
29	REC	O	REC TIMER LED (D604) drive output
30	SLEEP	O	SLEEP LED (D603) drive output
31	ENCODER	O	CONTROLLER LED (D602) drive output
32	NEXT	O	ENTER/NEXT LED (D601) drive output.
33	ENCODER IN B	I	Encoder switch input
34	AUBUS OUT	O	Audio bus output
35	RESET	I	Reset input
36	AUBUS IN	I	Audio bus input
37	ENCODER IN A	I	Encoder switch input
38	CLOCK	O	CLOCK output to IC103 (MEMORY)
39	DATA	I/O	Data input/output with IC103 (MEMORY)
40	VDD	–	Power supply (+5V)

Pin No.	Pin Name	I/O	Function
41	X2	O	Main clock (10 MHz)
42	X1	I	Main clock (10 MHz)
43	GND	–	GND
44	XT2	O	Clock (32.768 kHz)
45	XT1	I	
46	GND	–	GND
47	K1	I	Key input
48	K2	I	
49	GND	–	GND
50	GND	–	
51	GND	–	
52	GND	–	
53	GND	–	
54	GND	–	
55	AVDD	–	Power supply (+5V)
56	AVREF	–	
57	GND	–	GND
58	SDATA	O	Data output to IC601 (FL driver)
59	SCK	O	CLOCK output to IC601 (FL driver)
60	$\overline{\text{CS}}$	O	CS output to IC601 (FL driver)
61	RESET	O	RESET output to IC601 (FL driver)
62	Destination	I	Destination discrimination input
63	Destination	I	
64	Destination	I	

4-2. BLOCK DIAGRAM

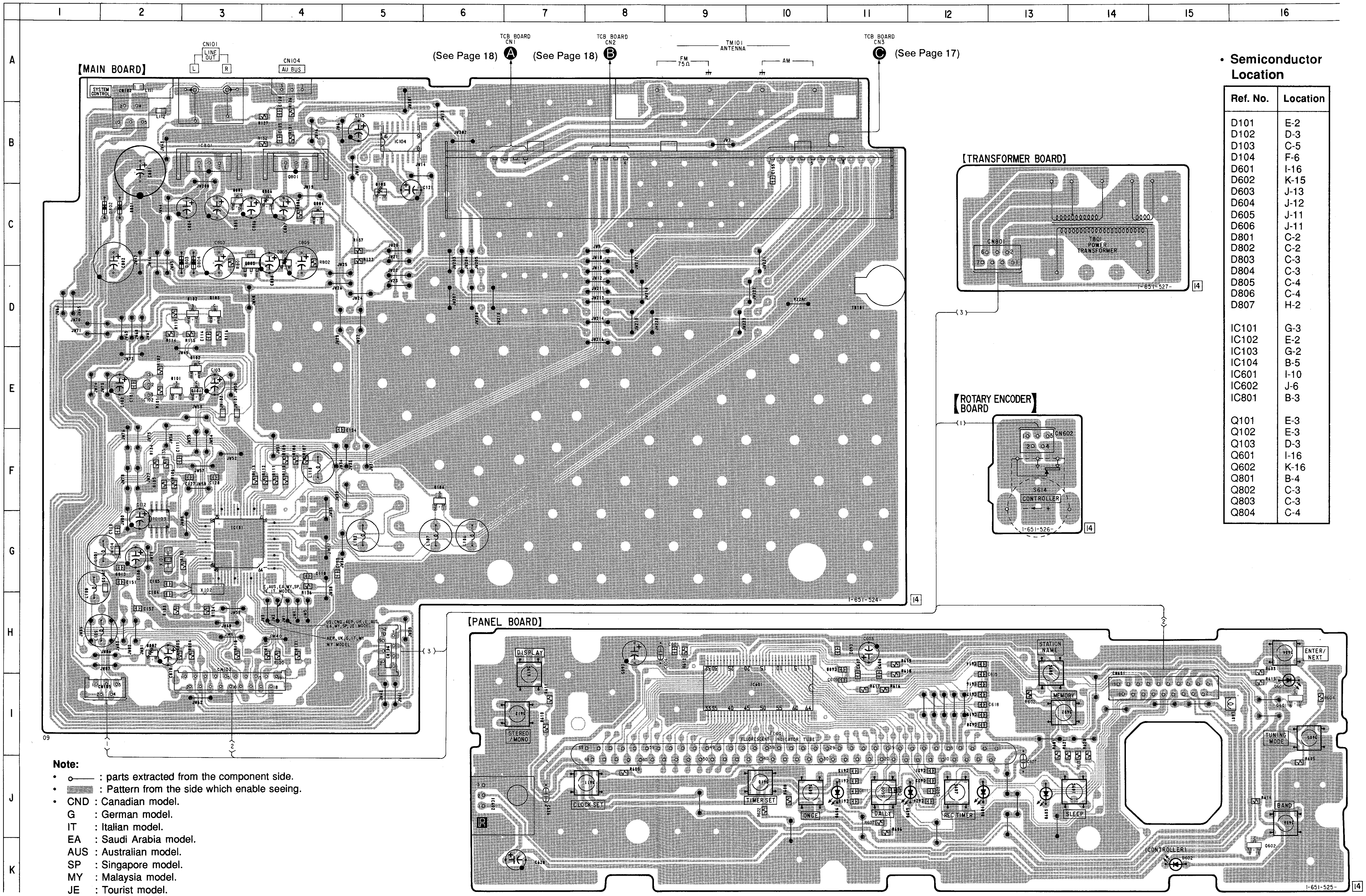

TM101
ANTENNA
FM 75 Ω COAXIAL
AM
FE1
FM FRONT END
ANT IN
IF OUT
VT
F OUT
B+
Q3 B+ SWITCH
B+ (+10V)
FE3 (LW)
G, IT MODEL
Q4 SWITCHING
AEP, UK MODEL
Q7 SWITCHING
Q5 SWITCHING
Q6 SWITCHING
FE2 (MW (AM))
Q22, 23 LPF
Q24, 25 LPF
MW
LW/MW
PD1
PD2
AEP, UK, G, IT MODEL
CF1 10.7MHz
Q1 RF AMP
EXCEPT G, IT MODEL
CF2
Q2 RF AMP
CF51 10.7MHz
D21, Q21 +5V REG
X51 456kHz
FM OSC IN
FM
VDD
IF REQ
AM IF IN
FM IF IN
VCO STOP
AM OSC IN
IC21 PLL
RV52 FM TUNED LIGHT LEVEL
D51
CE
DATA IN
CLOCK
DATA OUT
X21 7.2MHz
FM IN
TP51
FM AHC
V REF
FM DET OUT
AM OSC
AM RF IN
VCO
IF BUFF
FM/AM
FM SD ADJ
TUNED LED
STEREO LED
SIGNAL
STEREO
FL51
EXCEPT G, IT MODEL
MPX IN
IC51 FM DET.MPX AM IF.DET
L CH
R CH
AM MIX
AM IF
AM SD ADJ
MUTE
DET
SEP
Q51 PRE AMP
Q52 PRE AMP
LPF52 LPF
LPF51 LPF
IC104 MUTE
LINE OUT
L
R
IFT52
RV51 MW (AM) TUNED LIGHT LEVEL
Q53 MUTING SWITCH
IFT51 NULL
RV53 SEPARATION
IC103 MEMORY
SCL
SDA
X101 10MHz
X102 32.768kHz
D606 (ONCE)
D605 (DAILY)
D604 (REC TIMER)
D603 (SLEEP)
D602 (CONTROLLER)
D601 (ENTER/NEXT)
Q602 LED DRIVE
Q601 LED DRIVE
KEY MATRIX S601-613
IC602 REMOTE CONTROL RECIEVER
X2
X1
XT2
XT1
ONCE
DAILY
REC
SLEEP
ENCODER
NEXT
KEY1 KEY2
RCS IN
TUNER ON
AUBUS OUT
AUBUS IN
D109
IC101 SYSTEM CONTROLLER
SDATA
SCK
CS
RESET
BACK UP
POWER
Q103, D102 AU BUS SWITCHING
CN104 AU BUS
GND
CN102 SYSTEM CONTROL
IC601 FL DRIVE
DIG00-15
SEG00-34
12-1, 64-61
59-33, 31-24
17-6, 18-21
30-56, 64-57
VF2
VF1
FL601 FLUORESCENT INDICATOR TUBE
IC102 RESET
Q101, 102 RESET SWITCH
+5V
Q804 POWER ON/OFF SWITCH
(IC51, 71) +10V
Q801, 802 +10V REG
IC801 +5V REG
OUT
IN
(IC101-104, 601, 602) +5V
D801, 802 +RECT
(IC104, 601) -24V
Q803 -24V REG
D803, 804 -30V RECT
T801 POWER TRANSFORMER
AUB GND
AUB
AC
AC GND
TM101
ANTENNA
FM 75 Ω
FE2 (MW)
US, CND MODEL
T1
SW3 ANT
CV1
CV2
T2
SW3 OSC
SW TRACKING
SW CONT VOLTAGE
SW
SW/MW
EXCEPT US, CND MODEL
US, CND, E, AUS, EA, JE, SP, MY MODEL
09

• Signal path.
:FM
:MW (AM)

• CND:Canadian model.
G :German model.
IT :Italian model.
AUS:Australian model.
EA :Saudi Arabia model.
JE :Tourist model.
SP :Singapore model.
MY :Malaysia model.

4-3. PRINTED WIRING BOARDS —MAIN SECTION —

• See page 23 for Semiconductor Lead Layouts.


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
K
[MAIN BOARD]
CN101 LINE OUT
L
R
CN104 AU BUS
TCB BOARD CN1
(See Page 18)
A
TCB BOARD CN2
(See Page 18)
B
TM101 ANTENNA
FM 75Ω
AM
TCB BOARD CN3
C
(See Page 17)
SYSTEM CONTROL
IC801
IC104
IC101
IC103
IC102
CN103
Q801
TB101
1-651-524-
14
[TRANSFORMER BOARD]
CN801
T801 POWER TRANSFORMER
1-651-527-
14
[ROTARY ENCODER BOARD]
CN602
S614 CONTROLLER
1-651-526-
14
[PANEL BOARD]
DISPLAY
STEREO /MONO
CLOCK SET
TIMER SET
ONCE
DAILY
REC TIMER
SLEEP
STATION NAME
MEMORY
IC601
FL601 FLUORESCENT INDICATOR TUBE
CN601
TUNING MODE
ENTER/ NEXT
BAND
(CONTROLLER)
D602
1-651-525-
14
E,AUS,EA,MY,SP, JE,IT MODEL
US,CND,AEP,UK,E,AUS, EA,MY,SP,JE MODEL
AEP,UK,G,IT,MY MODEL
09

• Semiconductor Location

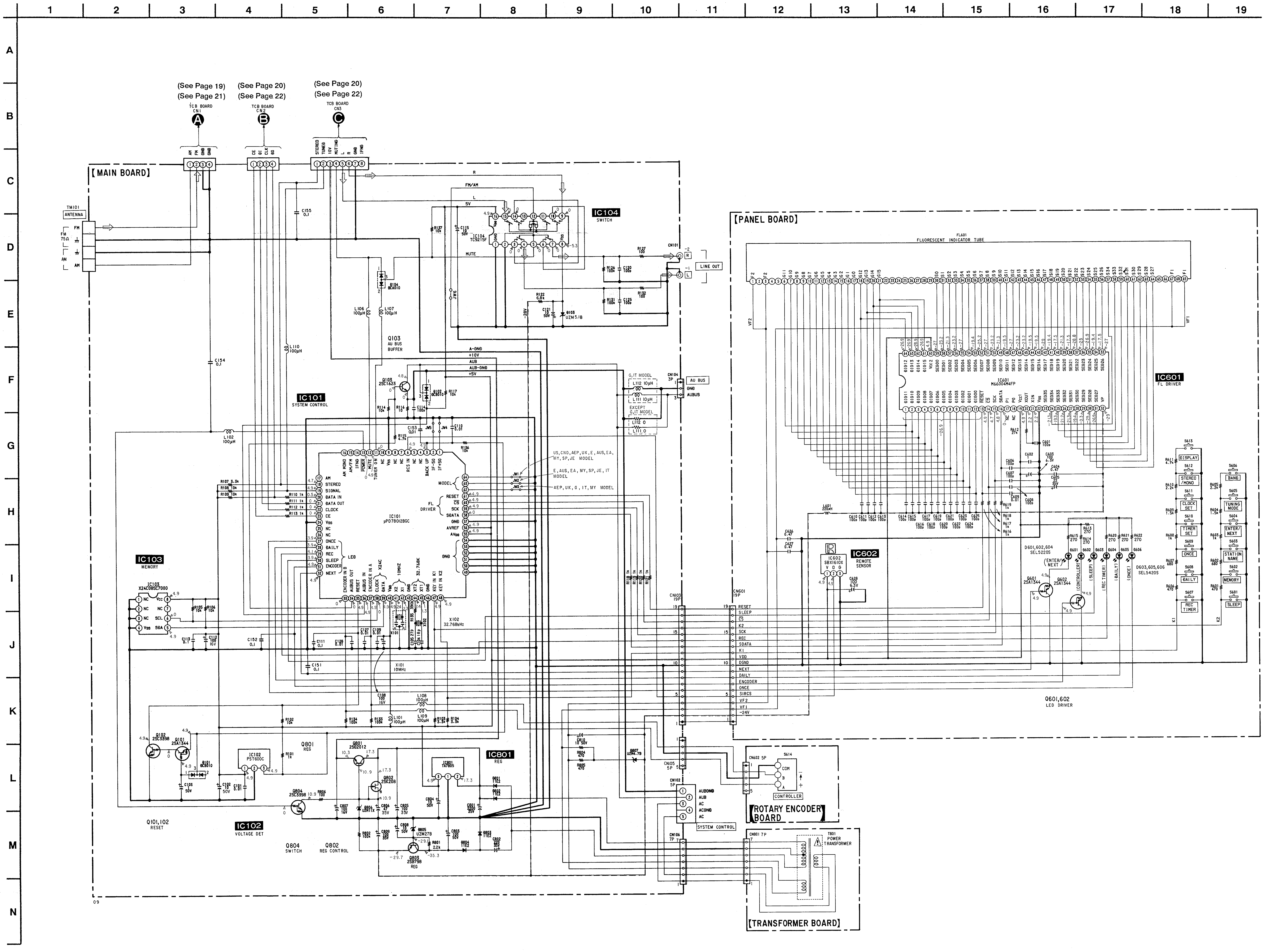
Ref. No.	Location
D101	E-2
D102	D-3
D103	C-5
D104	F-6
D601	I-16
D602	K-15
D603	J-13
D604	J-12
D605	J-11
D606	J-11
D801	C-2
D802	C-2
D803	C-3
D804	C-3
D805	C-4
D806	C-4
D807	H-2
IC101	G-3
IC102	E-2
IC103	G-2
IC104	B-5
IC601	I-10
IC602	J-6
IC801	B-3
Q101	E-3
Q102	E-3
Q103	D-3
Q601	I-16
Q602	K-16
Q801	B-4
Q802	C-3
Q803	C-3
Q804	C-4

Note:

- ○—— : parts extracted from the component side.
- ▨ : Pattern from the side which enable seeing.
- CND : Canadian model.
  G : German model.
  IT : Italian model.
  EA : Saudi Arabia model.
  AUS : Australian model.
  SP : Singapore model.
  MY : Malaysia model.
  JE : Tourist model.

4-4. SCHEMATIC DIAGRAM — MAIN SECTION —

• See page 7 for IC Pin Functions.


(See Page 19)
(See Page 21)
TCB BOARD CN1
A
(See Page 20)
(See Page 22)
TCB BOARD CN2
B
(See Page 20)
(See Page 22)
TCB BOARD CN3
C
[MAIN BOARD]
TM101 ANTENNA
FM 75Ω
AM
IC104 SWITCH
IC104 TC9215F
MUTE
CN101
LINE OUT
R
L
Q103 AU BUS BUFFER
Q103 2SC1623
IC101 SYSTEM CONTROL
IC101 μPD78012BGC
FL DRIVER
MODEL
RESET
CE
SCK
SBATA
GND
AVREF
AVss
LED
G,IT MODEL
EXCEPT G,IT MODEL
CN104 3P
AU BUS
GND
AUBUS
US,CND,AEP,UK,E,AUS,EA,MY,SP,JE MODEL
E,AUS,EA,MY,SP,JE,IT MODEL
AEP,UK,G,IT,MY MODEL
IC103 MEMORY
IC103 X24C08SL7000
X102 32.768kHz
X101 10MHz
IC801 REG
IC801 TA7805
Q801 2SD2012
REG
Q802 2SK208
Q803 2SB798
REG
Q804 2SC3398
Q804 SWITCH
Q802 REG CONTROL
Q101,102 RESET
Q102 2SC3398
Q101 2SA1344
IC102 PST600C
IC102 VOLTAGE DET
CN103 19P
CN601 19P
RESET
SLEEP
CS
K2
SCK
REC
SDATA
K1
VDD
DGND
NEXT
DAILY
ENCODER
ONCE
SIRCS
VF2
VF1
-24V
CN105 5P
CN102 5P
AUBGND
AUB
AC
ACGND
AC
SYSTEM CONTROL
CN106 7P
CN602 5P
S614
COM
CONTROLLER
[ROTARY ENCODER BOARD]
CN801 7P
T801 POWER TRANSFORMER
[TRANSFORMER BOARD]
[PANEL BOARD]
FL601 FLUORESCENT INDICATOR TUBE
IC601 FL DRIVER
IC601 M66004M8FP
IC602 REMOTE SENSOR
IC602 SBX1610X
D601,602,604 SEL5220S
D603,605,606 SEL5420S
(ENTER/NEXT)
(CONTROLLER)
(SLEEP)
(REC TIMER)
(DAILY)
(ONCE)
Q601 2SA1344
Q602 2SA1344
Q601,602 LED DRIVER
S615 DISPLAY
S612 STEREO/MONO
S611 CLOCK SET
S610 TIMER SET
S609 ONCE
S608 DAILY
S607 REC TIMER
S606 BAND
S605 TUNING MODE
S604 ENTER/NEXT
S603 STATION NAME
S602 MEMORY
S601 SLEEP
K1
K2
A
B
C
D
E
F
G
H
I
J
K
L
M
N
1
2
3
4
5
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8
9
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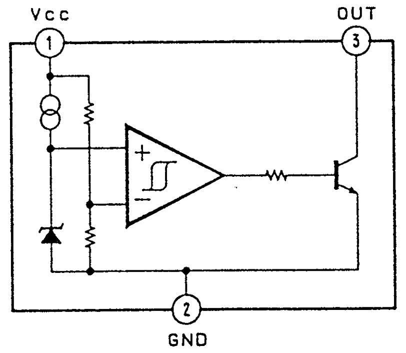
11
12
13
14
15
16
17
18
19

• IC BLOCK DIAGRAM

IC102 PCT600C


Vcc
1
OUT
3
2
GND

Note:

- All capacitors are in μF unless otherwise noted. pF:μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.

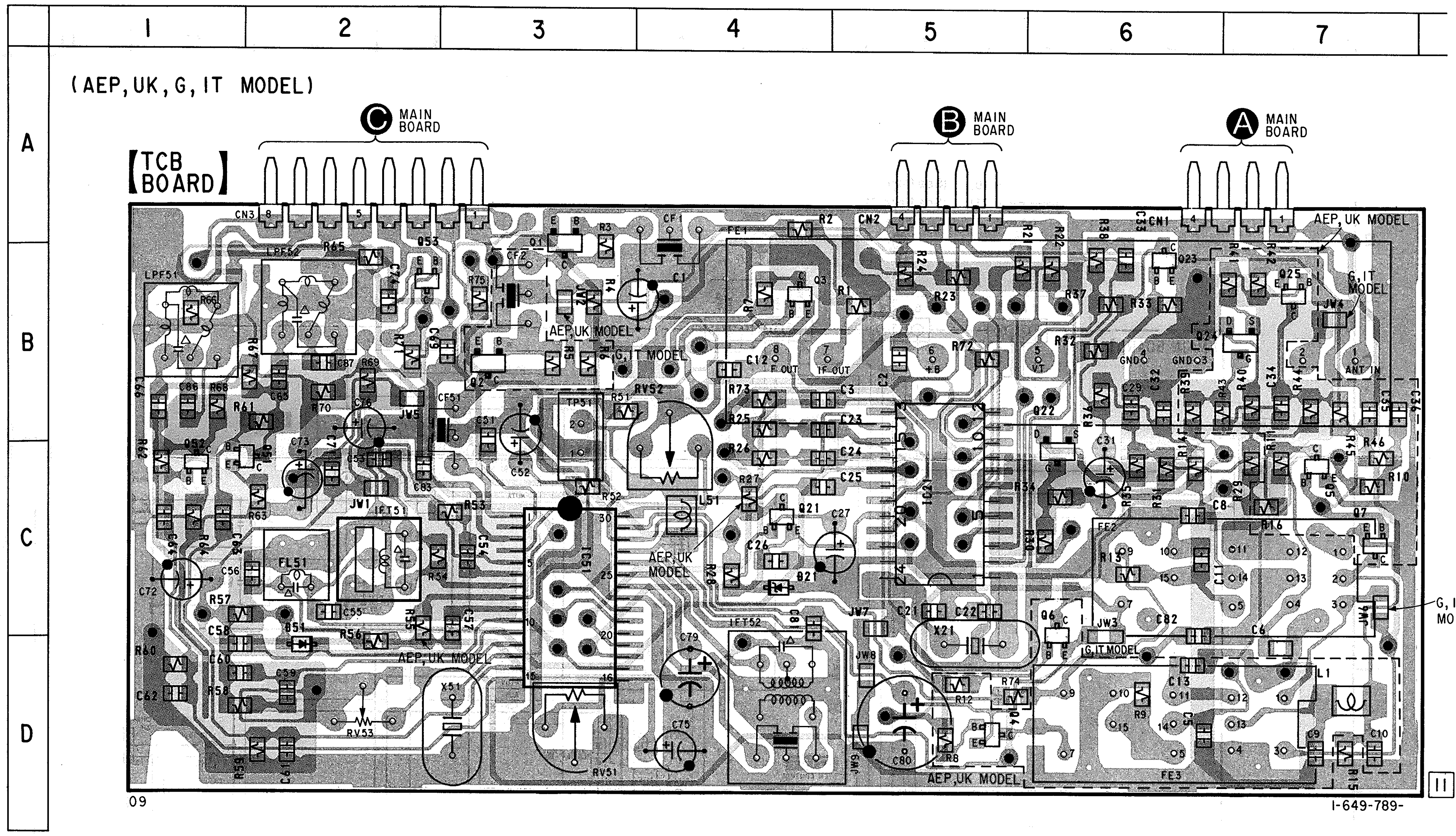
Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ▬▬▬ : B+ Line
- ▬ ▬ ▬ : B– Line
- Voltage and waveforms are dc with respect to ground.
  no mark : FM
  ( ) : AM
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- CND : Canadian model.
  G : German model.
  IT : Italian model.
  EA : Saudi Arabia model.
  AUS : Australian model.
  SP : Singapore model.
  MY : Malaysia model.
  JE : Tourist model.

4-5. PRINTED WIRING BOARD — TUNER SECTION —
- See page 23 for Semiconductor Lead Layouts.

- **Semiconductor Location**
(AEP, UK, G, IT Model)

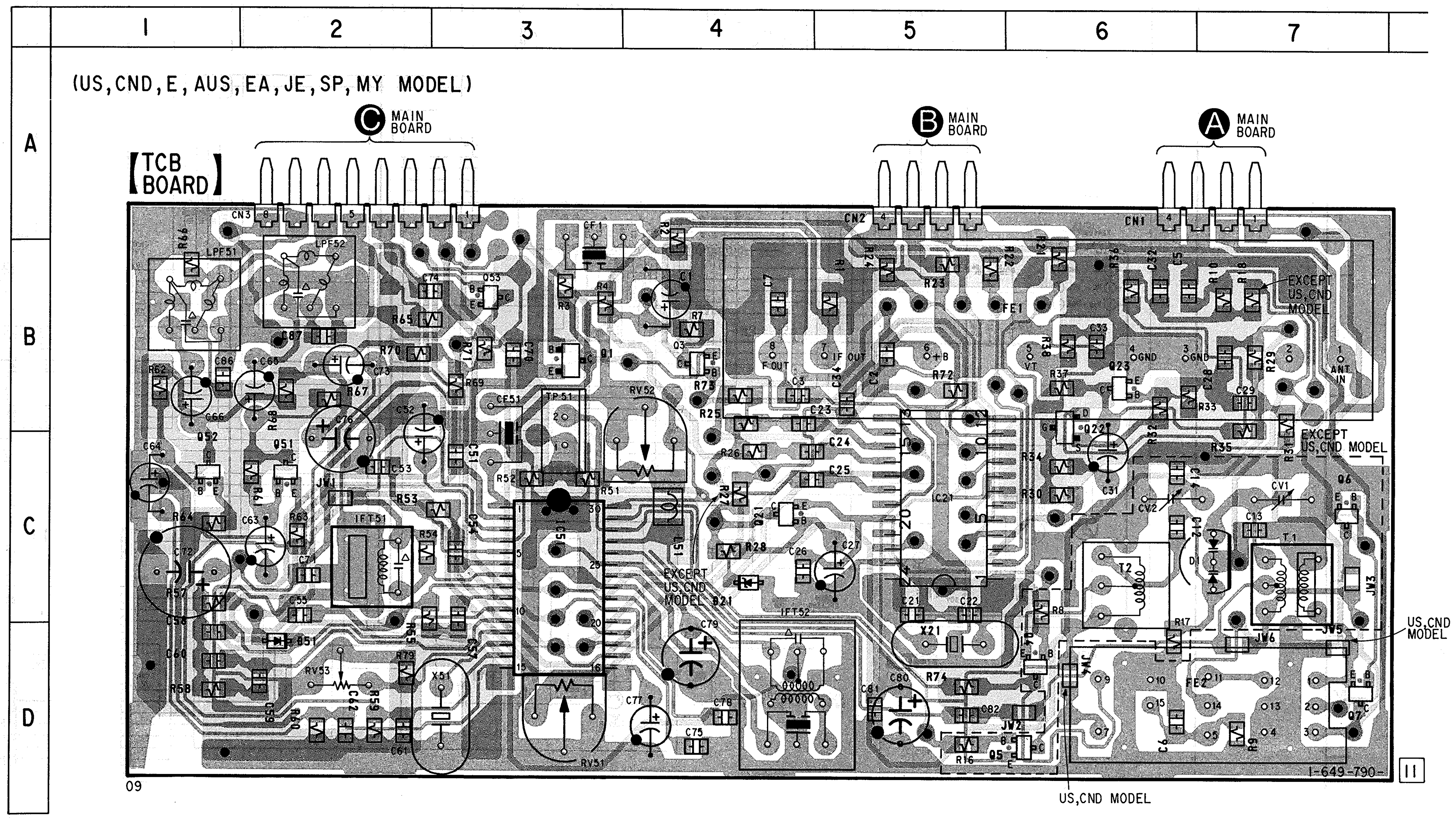
Ref. No.	Location
D21	C-4
D51	C-2
IC21	C-5
IC51	C-3
Q1	A-3
Q2	B-3
Q3	B-4
Q4	D-5
Q5	C-7
Q6	C-6
Q7	C-7
Q21	C-4
Q22	B-6
Q23	B-6
Q24	B-6
Q25	B-7
Q51	C-2
Q52	C-1
Q53	B-2


1
2
3
4
5
6
7
A
B
C
D
(AEP,UK,G,IT MODEL)
C MAIN BOARD
B MAIN BOARD
A MAIN BOARD
TCB BOARD
CN3
CN2
CN1
AEP,UK MODEL
G,IT MODEL
IC21
IC51
09
1-649-789-
11

4-6. PRINTED WIRING BOARD — TUNER SECTION —
- See page 23 for Semiconductor Lead

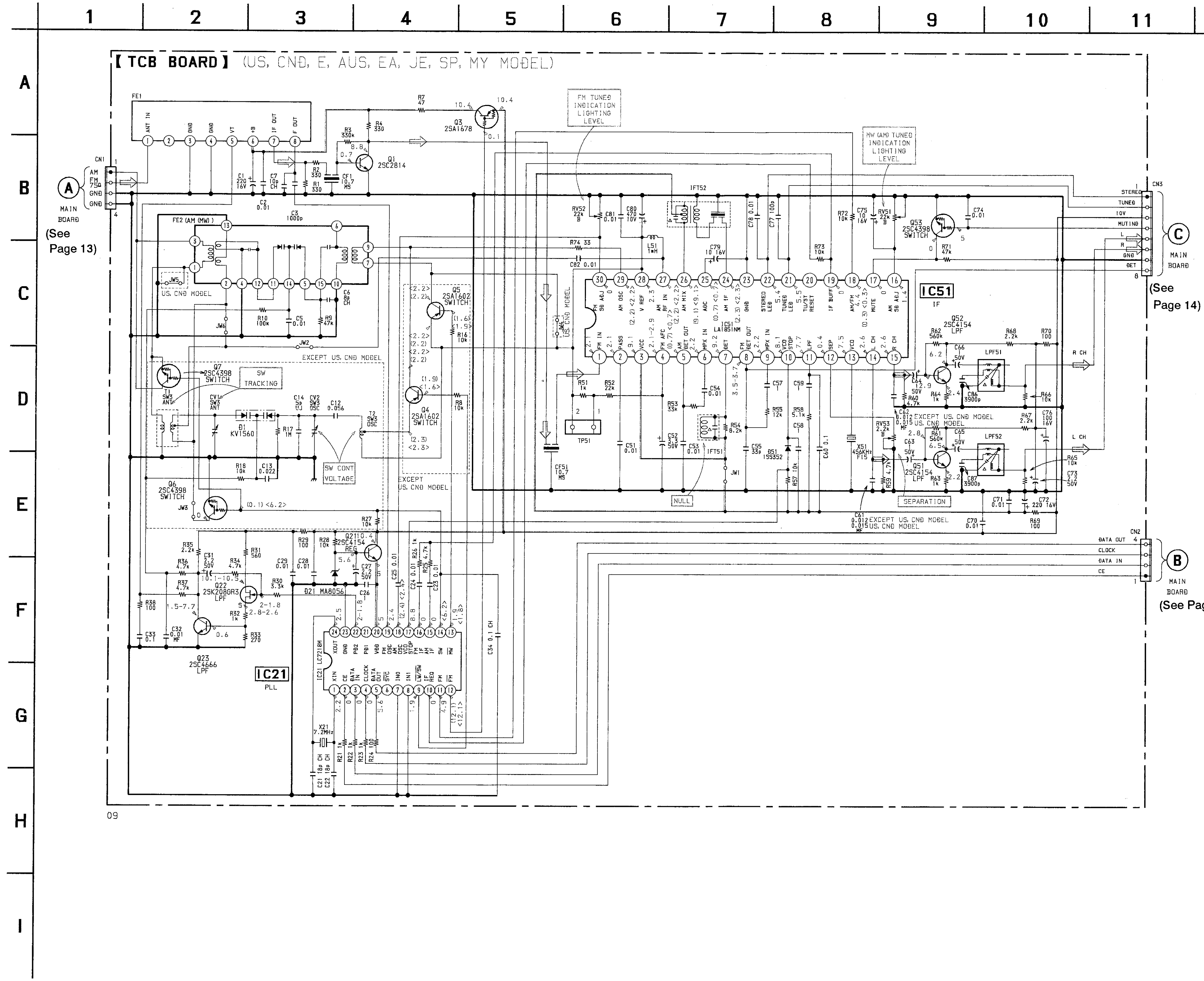
- **Semiconductor Location**
(US, CND, E, AUS, EA, JE, SP, MY Model)

Ref. No.	Location
D1	C-7
D21	C-4
D51	D-2
IC21	C-5
IC51	C-3
Q1	B-3
Q3	B-4
Q4	D-6
Q5	D-6
Q6	C-7
Q7	D-7
Q21	C-4
Q22	B-6
Q23	B-6
Q51	C-2
Q52	C-1
Q53	B-3


1
2
3
4
5
6
7
A
B
C
D
(US,CND,E,AUS,EA,JE,SP,MY MODEL)
C MAIN BOARD
B MAIN BOARD
A MAIN BOARD
TCB BOARD
CN3
CN2
CN1
EXCEPT US,CND MODEL
US,CND MODEL
IC21
IC51
09
1-649-790-
11

Note:
- o—— : parts extracted from the component side.
- ● : Through hole.
- △ : internal component.
- ▩ : Pattern from the side which enable seeing.
- ░ : Pattern of the rear side.
- CND : Canadian model.
  G : German model.
  IT : Italian model.
  EA : Saudi Arabia model.
  AUS : Australian model.
  SP : Singapore model.
  MY : Malaysia model.
  JE : Tourist model.

4-7. SCHEMATIC DIAGRAM — TUNER SECTION —


【TCB BOARD】 (US, CND, E, AUS, EA, JE, SP, MY MODEL)
A MAIN BOARD (See Page 13)
C MAIN BOARD (See Page 14)
B MAIN BOARD (See Page 13)
CN1
CN2
CN3
IC51 IF
IC21 PLL
FM TUNED INDICATION LIGHTING LEVEL
MW(AM) TUNED INDICATION LIGHTING LEVEL
EXCEPT US, CND MODEL
US, CND MODEL
SW TRACKING
SW CONT VOLTAGE
NULL
SEPARATION
LPF51
LPF52
DATA OUT
CLOCK
DATA IN
CE
STEREO
TUNED
MUTING
L CH
R CH
GND
DET
09

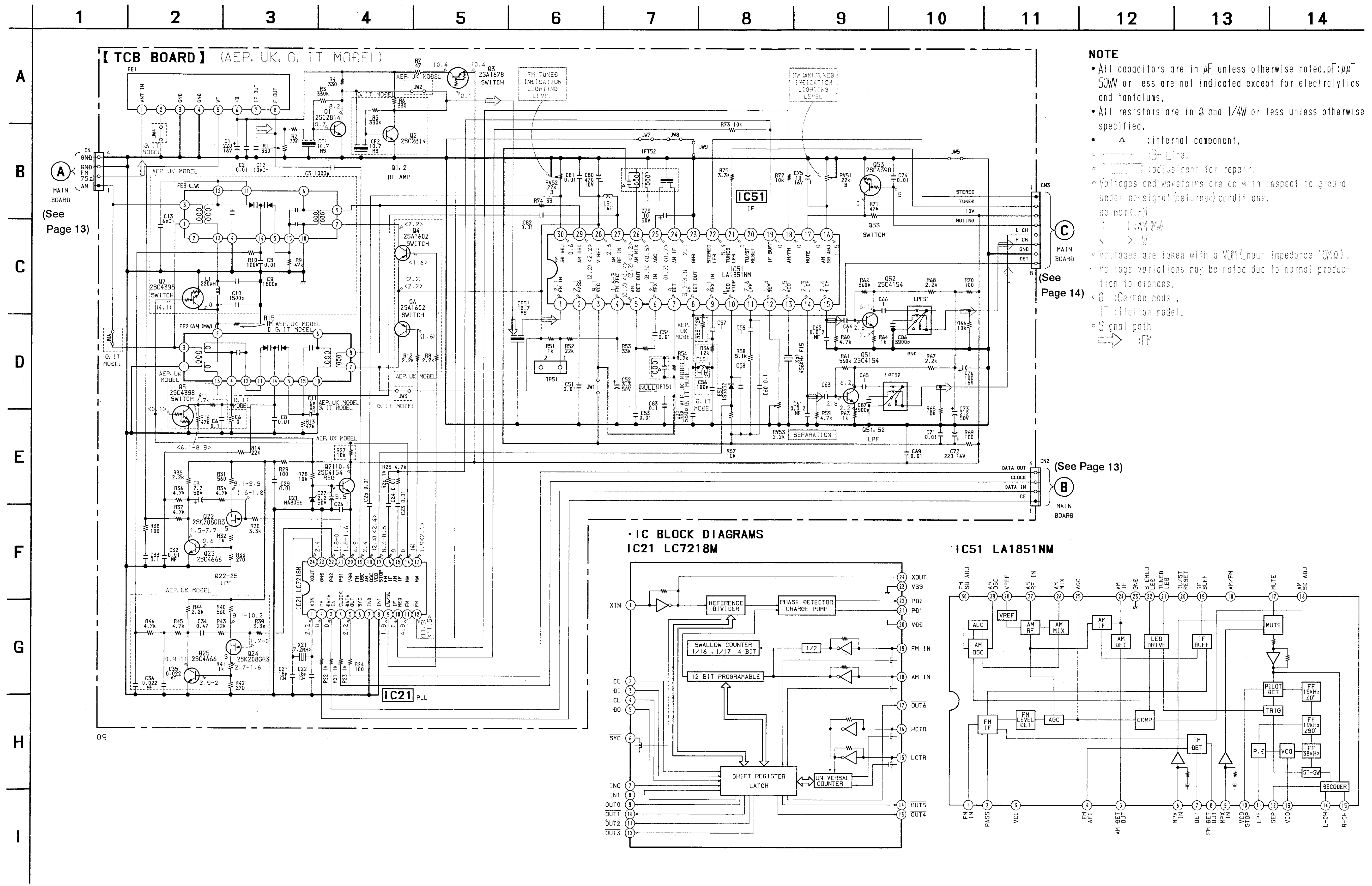
NOTE

- All capacitors are in μF unless otherwise noted.pF:μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ :internal component.
- ○ ------ :B+ Line.
- ○ ▭ :adjustment for repair.
- ○ Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark:FM
  (   ) :AM (MW)
  <   >:SW
- ○ Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- ○ CND:Canadian model.
  AUS:Australian model.
  EA :Saudi Arabia model.
  JE :Tourist model.
  SP :Singapore model.
  MY :Malaysia model.
- ○ Signal path.
  ⇨ :FM

4-8. SCHEMATIC DIAGRAM — TUNER SECTION —

NOTE

- All capacitors are in μF unless otherwise noted.pF:μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ :internal component.
- ○ ------ :B+ Line.
- ○ ▭ :adjustment for repair.
- ○ Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark:FM
  (   ) :AM (MW)
  <   >:LW
- ○ Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- ○ G :German model.
  IT :Italian model.
- ○ Signal path.
  ⇨ :FM


【TCB BOARD】 (AEP, UK, G, IT MODEL)
A MAIN BOARD (See Page 13)
C MAIN BOARD (See Page 14)
B MAIN BOARD (See Page 13)
CN1
CN2
CN3
IC51 IF
IC21 PLL
FM TUNED INDICATION LIGHTING LEVEL
MW(AM) TUNED INDICATION LIGHTING LEVEL
AEP, UK MODEL
G, IT MODEL
NULL
SEPARATION
LPF51
LPF52
DATA OUT
CLOCK
DATA IN
CE
STEREO
TUNED
MUTING
L CH
R CH
GND
DET
09
REFERENCE DIVIDER
PHASE DETECTOR CHARGE PUMP
SWALLOW COUNTER 1/16, 1/17 4 BIT
12 BIT PROGRAMABLE
SHIFT REGISTER LATCH
UNIVERSAL COUNTER
XIN
XOUT
VSS
PD2
PD1
VDD
FM IN
AM IN
OUT6
HCTR
LCTR
OUT5
OUT4
CE
DI
CL
DO
SYC
IN0
IN1
OUT3
OUT2
OUT1
OUT0
ALC
AM OSC
VREF
AM RF
AM MIX
AM IF
AM DET
LED DRIVE
IF BUFF
MUTE
FM IF
FM LEVEL DET
AGC
COMP
FM DET
PILOT DET
FF 19kHz
TRIG
FF 38kHz
FF 19kHz
VCO
PD
ST-SW
DECODER

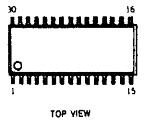
·IC BLOCK DIAGRAMS

IC21 LC7218M

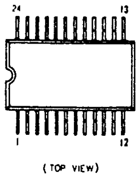
IC51 LA1851NM

4-9. SEMICONDUCTOR LEAD LAYOUTS

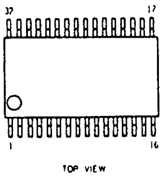
LA1851NM


30
16
1
15
TOP VIEW

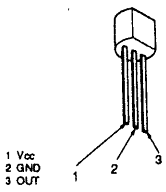
LC7218M


24
13
1
12
(TOP VIEW)

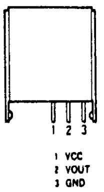
M66004M4FP


32
17
1
16
TOP VIEW

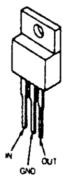
PST600C-T


1 Vcc
2 GND
3 OUT
1
2
3

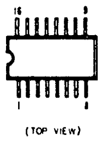
SBX1610-59


1 2 3
1 VCC
2 VOUT
3 GND

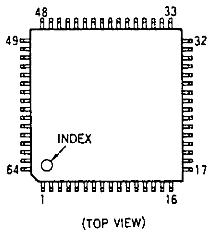
TA7805S



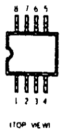
TC9215F


16
9
1
8
(TOP VIEW)

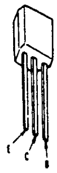
μPD78012BGC-627-AB8


48
33
49
32
INDEX
64
17
1
16
(TOP VIEW)

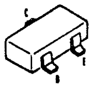
X24C08SC7000


8 7 6 5
1 2 3 4
(TOP VIEW)

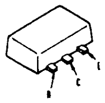
2SA1344



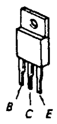
2SA1678
2SC1623-L5L6
2SC2814-F4
2SC3398
2SC4154-F
2SC4398
2SC4666B



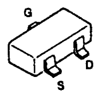
2SB798-DL



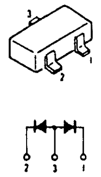
2SD2012



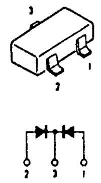
2SK208-GR3



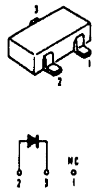
DCA010



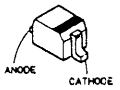
DCB010



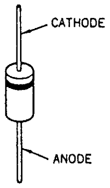
UZM11B
UZM27B
UZM4.7B
UZM5.1B



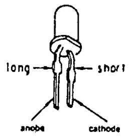
1SS352
MA8056


ANODE
CATHODE

10E2


CATHODE
ANODE

SEL5220S


long
short
anode
cathode

SECTION 5
EXPLODED VIEWS

NOTE:

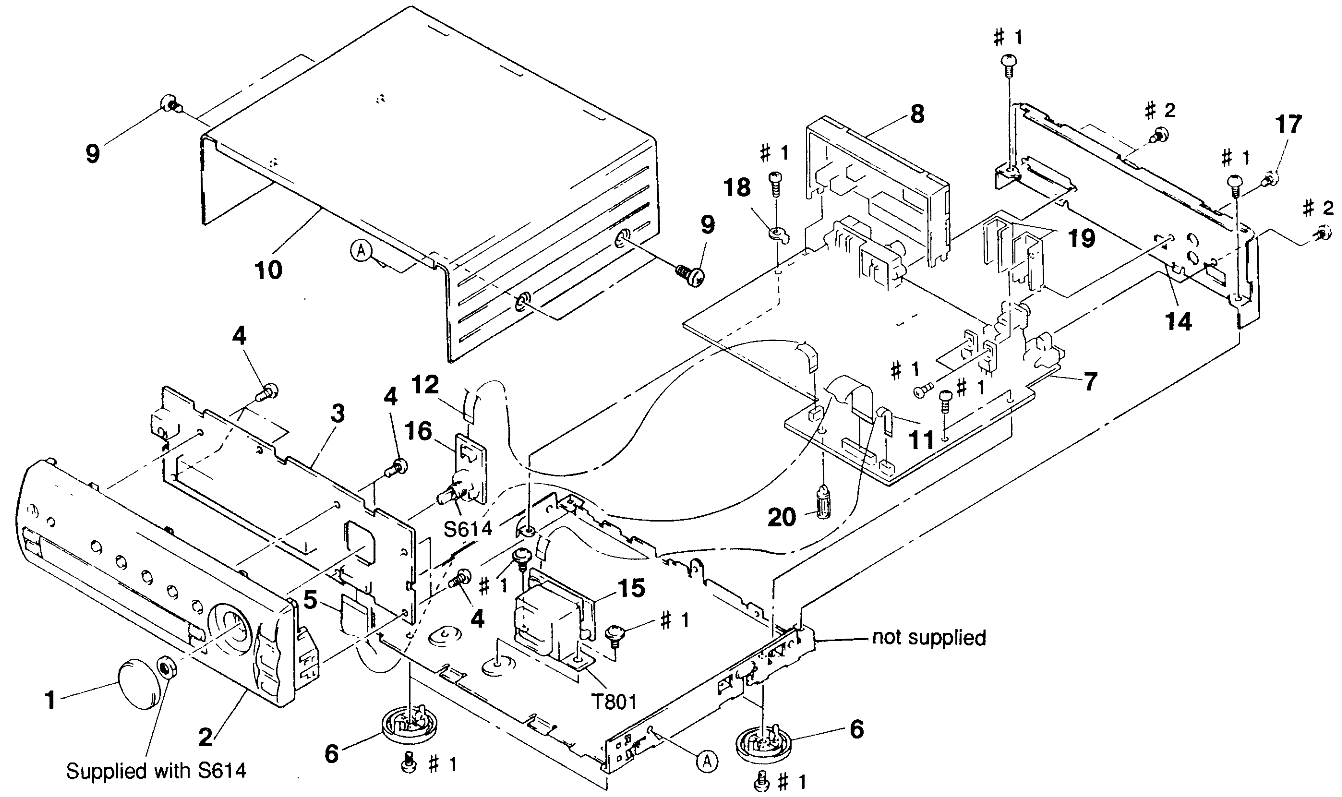
- Items marked " ∗ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts color ↑ Cabinet's color

- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- CND : Canadian model
- G : German model
- IT : Italian model
- EA : Saudi Arabia model
- AUS : Australian model
- SP : Singapore model
- MY : Malaysia model
- JE : Tourist model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

5-1. CASE AND CHASSIS BLOCK



Ref. No.	Part No.	Description	Remark
1	4-961-134-01	KNOB (ROTARY)	
2	X-4944-021-1	PANEL ASSY, FRONT	
∗ 3	A-4365-452-A	PANEL BOARD, COMPLETE (AEP, UK)	
∗ 3	A-4365-456-A	PANEL BOARD, COMPLETE (G)	
∗ 3	A-4365-460-A	PANEL BOARD, COMPLETE (IT)	
∗ 3	A-4365-464-A	PANEL BOARD, COMPLETE (E, AUS, EA, JE, SP)	
∗ 3	A-4365-468-A	PANEL BOARD, COMPLETE (US, CND)	
∗ 3	A-4365-472-A	PANEL BOARD, COMPLETE (MY)	
4	4-951-620-01	SCREW (2.6X8), +BVTP	
5	1-765-242-31	WIRE (FLAT TYPE) (19 CORE)	
6	X-4944-053-1	FOOT (DIA. 42) ASSY	
∗ 7	A-4365-451-A	MAIN BOARD, COMPLETE (AEP, UK)	
∗ 7	A-4365-455-A	MAIN BOARD, COMPLETE (G)	
∗ 7	A-4365-459-A	MAIN BOARD, COMPLETE (IT)	
7	A-4365-463-A	MAIN BOARD, COMPLETE (E, AUS, EA, JE, SP)	
∗ 7	A-4365-467-A	MAIN BOARD, COMPLETE (US, CND)	
∗ 7	A-4365-471-A	MAIN BOARD, COMPLETE (MY)	
∗ 8	A-4303-459-A	TCB BOARD, COMPLETE (AEP, UK)	
∗ 8	A-4303-460-A	TCB BOARD, COMPLETE (G, IT)	
∗ 8	A-4303-461-A	TCB BOARD, COMPLETE (E, AUS, EA, JE, SP, MY)	
∗ 8	A-4303-462-A	TCB BOARD, COMPLETE (US, CND)	
9	3-363-099-21	SCREW (CASE 3 TP2)	
∗ 10	4-961-481-01	CASE	
11	1-590-769-31	WIRE, FLAT TYPE (7 CORE)	
12	1-751-686-11	WIRE (FLAT TYPE) (5 CORE)	
∗ 14	4-961-135-11	PANEL, BACK (AEP, UK)	
∗ 14	4-961-135-21	PANEL, BACK (US, CND)	
∗ 14	4-961-135-31	PANEL, BACK (G)	
∗ 14	4-961-135-41	PANEL, BACK (IT)	
∗ 14	4-961-135-51	PANEL, BACK (E, AUS, EA, JE, SP, MY)	
∗ 15	1-651-527-11	TRANSFORMER BOARD	
16	1-651-577-11	ROTARY ENCODER BOARD	
17	3-704-515-21	SCREW (BV/RING)	
18	3-870-539-00	PLATE GROUND	
19	3-309-144-21	HEAT SINK	
∗ 20	3-669-610-00	SPACER	
⚠T801	1-423-811-11	TRANSFORMER POWER	

SECTION 6
ELECTRICAL PARTS LIST

MAIN

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts color ↑ Cabinet's color
- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μA..., uPA...: μPA..., uPB...: μPB..., uPC...: μPC..., uPD...: μPD...
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- CAPACITORS
  uF : μF
- COILS
  uH : μH
- CND : Canadian model
- G : German model
- IT : Italian model
- EA : Saudi Arabia model
- AUS : Australian model
- SP : Singapore model
- MY : Malaysia model
- JE : Tourist model

Ref. No.	Part No.	Description			Remark
*	A-4365-451-A	MAIN BOARD, COMPLETE (AEP, UK) *****************************			
*	A-4365-455-A	MAIN BOARD, COMPLETE (G) ************************			
*	A-4365-459-A	MAIN BOARD, COMPLETE (IT) *************************			
*	A-4365-463-A	MAIN BOARD, COMPLETE (E, AUS, EA, JE, SP) *************************************			
*	A-4365-467-A	MAIN BOARD, COMPLETE (US, CND) *****************************			
*	A-4365-471-A	MAIN BOARD, COMPLETE (MY) *************************			
*	3-309-144-21	HEAT SINK			
*	4-870-539-00	PLATE, GROUND			
	7-682-547-09	SCREW +BVTT 3X6 (S)			
		< CAPACITOR >			
C101	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C102	1-126-964-11	ELECT	10uF	20%	50V
C103	1-124-903-11	ELECT	1uF	20%	50V
C104	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C105	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C108	1-126-933-11	ELECT	100uF	20%	16V
C109	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C110	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C111	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C112	1-126-933-11	ELECT	100uF	20%	16V
C113	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C114	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C115	1-126-964-11	ELECT	10uF	20%	50V
C120	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C121	1-126-964-11	ELECT	10uF	20%	50V
C125	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C127	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C128	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C151	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C152	1-163-038-00	CERAMIC CHIP	0.1uF		25V

Ref. No.	Part No.	Description			Remark
C153	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C154	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C155	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C801	1-126-943-11	ELECT	2200uF	20%	25V
C802	1-126-949-11	ELECT	220uF	20%	35V
C803	1-124-122-11	ELECT	100uF	20%	50V
C804	1-126-964-11	ELECT	10uF	20%	50V
C805	1-126-948-11	ELECT	100uF	20%	35V
C806	1-126-947-11	ELECT	47uF	20%	35V
C807	1-126-933-11	ELECT	100uF	20%	16V
C808	1-126-964-11	ELECT	10uF	20%	50V
C809	1-126-948-11	ELECT	100uF	20%	35V
C810	1-126-964-11	ELECT	10uF	20%	50V
		< CONNECTOR >			
CN101	1-750-679-11	JACK, PIN 2P (LINE OUT)			
CN102	1-764-016-31	HOUSING, CONNECTOR(PC BOARD) 5P (SYSTEM CONTROL)			
CN103	1-568-802-11	SOCKET, CONNECTOR 19P			
* CN104	1-565-561-11	PIN, CONNECTOR 3P (AU BUS)			
* CN105	1-568-824-11	SOCKET, CONNECTOR 5P			
* CN106	1-568-826-11	SOCKET, CONNECTOR 7P			
		< DIODE >			
D101	8-719-990-39	DIODE	DCB010		
D102	8-719-990-39	DIODE	DCB010		
D103	8-719-021-31	DIODE	UZM5.1B		
D104	8-719-990-36	DIODE	DCA010		
D801	8-719-200-02	DIODE	10E2		
D802	8-719-200-02	DIODE	10E2		
D803	8-719-200-02	DIODE	10E2		
D804	8-719-200-02	DIODE	10E2		
D805	8-719-022-74	DIODE	UZM27B		
D806	8-719-021-95	DIODE	UZM11B		
D807	8-719-021-23	DIODE	UZM4.7B		
		< IC >			
IC101	8-759-276-40	IC	uPD78012BGC-627-AB8		
IC102	8-759-165-80	IC	PST600C-T		

MAIN PANEL

Ref. No.	Part No.	Description	Remark
IC103	8-759-095-56	IC X24C08SC7000	
IC104	8-759-051-64	IC TC9215F (TP1)	
IC801	8-759-231-53	IC TA7805S	
		< JUMPER RESISTOR >	
JW101	1-216-295-00	METAL CHIP 0 5% 1/10W	
JW102	1-216-295-00	METAL CHIP 0 5% 1/10W	
JW103	1-216-295-00	METAL CHIP 0 5% 1/10W	
JW104	1-216-295-00	METAL CHIP 0 5% 1/10W	
		< COIL >	
L101	1-410-482-31	INDUCTOR 100uH	
L102	1-410-482-31	INDUCTOR 100uH	
L106	1-410-482-31	INDUCTOR 100uH	
L107	1-410-482-31	INDUCTOR 100uH	
L108	1-410-482-31	INDUCTOR 100uH	
L109	1-410-482-31	INDUCTOR 100uH	
L110	1-410-482-31	INDUCTOR 100uH	
L111	1-216-296-00	METAL CHIP 0 5% 1/8W	(US, CND, AEP, UK, E, AUS, EA, JE, SP, MY)
L111	1-410-381-11	INDUCTOR 10uH (G, IT)	
L112	1-216-296-00	METAL CHIP 0 5% 1/8W	(US, CND, AEP, UK, E, AUS, EA, JE, SP, MY)
L112	1-410-381-11	INDUCTOR 10uH (G, IT)	
		< TRANSISTOR >	
Q101	8-729-805-65	TRANSISTOR 2SA1344	
Q102	8-729-805-41	TRANSISTOR 2SC3398	
Q103	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q801	8-729-209-15	TRANSISTOR 2SD2012	
Q802	8-729-232-69	TRANSISTOR 2SK208GR3	
Q803	8-729-101-07	TRANSISTOR 2SB798-DL	
Q804	8-729-805-41	TRANSISTOR 2SC3398	
		< RESISTOR >	
R101	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R102	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R103	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R104	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R105	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R106	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R107	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R108	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R109	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R110	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R111	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R112	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R113	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R114	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R115	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R116	1-216-001-00	METAL CHIP 10 5% 1/10W	
R117	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R118	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R119	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R120	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R121	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R122	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R126	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R127	1-216-025-00	METAL CHIP 100 5% 1/10W	
R131	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R132	1-216-025-00	METAL CHIP 100 5% 1/10W	
R133	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R134	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R135	1-216-111-00	METAL CHIP 390K 5% 1/10W	
R136	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R137	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R801	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R802	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R804	1-216-041-00	METAL CHIP 470 5% 1/10W	
R805	1-216-041-00	METAL CHIP 470 5% 1/10W	
R806	1-216-025-00	METAL CHIP 100 5% 1/10W	
		< TERMINAL >	
TM101	1-537-238-21	TERMINAL BOARD	(US, CND, E, AUS, EA, JE, SP, MY)
TM101	1-537-488-11	TERMINAL BOARD (ANT)	(AEP, UK, G, IT)
		< VIBRATOR >	
X101	1-579-175-11	VIBRATOR, CERAMIC (10MHz)	
X102	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)	

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Ref. No.	Part No.	Description	Remark
*	A-4365-452-A	PANEL BOARD, COMPLETE (AEP, UK)	
*	A-4365-456-A	PANEL BOARD, COMPLETE (G)	
*	A-4365-460-A	PANEL BOARD, COMPLETE (IT)	
*	A-4365-464-A	PANEL BOARD, COMPLETE (E, AUS, EA, JE, SP)	
*	A-4365-468-A	PANEL BOARD, COMPLETE (US, CND)	
*	A-4365-472-A	PANEL BOARD, COMPLETE (MY)	
*	4-961-133-01	HOLDER (FL)	

PANEL

< CAPACITOR >

Ref.No.	Part No.	Description	Remark
C601	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C602	1-164-346-11	CERAMIC CHIP 1uF	16V
C603	1-124-584-00	ELECT 100uF 20%	10V
C604	1-136-173-00	FILM 0.47uF 5%	50V
C605	1-124-248-00	ELECT 22uF 20%	35V
C606	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C607	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C608	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C609	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C610	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C611	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C612	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C613	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C614	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C615	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C616	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C617	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C618	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C619	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C620	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C621	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C622	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C623	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C624	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C625	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C626	1-136-173-00	FILM 0.47uF 5%	50V
C627	1-136-173-00	FILM 0.47uF 5%	50V
C628	1-124-584-00	ELECT 100uF 20%	10V

< CONNECTOR >

Ref.No.	Part No.	Description	Remark
* CN601	1-568-862-11	SOCKET, CONNECTOR 19P	

< DIODE >

Ref.No.	Part No.	Description	Remark
D601	8-719-032-83	DIODE SEL5220S-TP15 (ENTER/NEXT)	
D602	8-719-032-83	DIODE SEL5220S-TP15 (CONTROLLER)	
D603	8-719-032-87	DIODE SEL5420S-TP15 (SLEEP)	
D604	8-719-032-83	DIODE SEL5220S-TP15 (REC TIMER)	
D605	8-719-032-87	DIODE SEL5420S-TP15 (DAILY)	
D606	8-719-032-87	DIODE SEL5420S-TP15 (ONCE)	

< FLUORESCENT INDICATOR >

Ref.No.	Part No.	Description	Remark
FL601	1-517-229-11	INDICATOR TUBE, FLUORESCENT	

< IC >

Ref.No.	Part No.	Description	Remark
IC601	8-759-254-76	IC M66004M4FP	
IC602	8-741-100-48	IC SBX1610-59	

< COIL >

Ref.No.	Part No.	Description	Remark
L601	1-408-793-21	INDUCTOR CHIP 220uH	

< TRANSISTOR >

Ref.No.	Part No.	Description	Remark
Q601	8-729-805-65	TRANSISTOR 2SA1344	
Q602	8-729-805-65	TRANSISTOR 2SA1344	

< RESISTOR >

Ref.No.	Part No.	Description	Remark
R601	1-216-041-00	METAL CHIP 470 5% 1/10W	
R602	1-216-045-00	METAL CHIP 680 5% 1/10W	
R603	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R604	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R605	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R606	1-216-041-00	METAL CHIP 470 5% 1/10W	
R607	1-216-045-00	METAL CHIP 680 5% 1/10W	
R608	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R609	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R610	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R611	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R612	1-216-083-00	METAL CHIP 27K 5% 1/10W	
R613	1-216-035-00	METAL CHIP 270 5% 1/10W	
R614	1-216-035-00	METAL CHIP 270 5% 1/10W	
R615	1-216-035-00	METAL CHIP 270 5% 1/10W	
R616	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R617	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R618	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R619	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R620	1-216-035-00	METAL CHIP 270 5% 1/10W	
R621	1-216-035-00	METAL CHIP 270 5% 1/10W	
R622	1-216-035-00	METAL CHIP 270 5% 1/10W	

< SWITCH >

Ref.No.	Part No.	Description	Remark
S601	1-554-303-21	SWITCH, TACTILE (SLEEP)	
S602	1-554-303-21	SWITCH, TACTILE (MEMORY)	
S603	1-554-303-21	SWITCH, TACTILE (STATION NAME)	
S604	1-554-303-21	SWITCH, TACTILE (ENTER/NEXT)	
S605	1-554-303-21	SWITCH, TACTILE (TUNING MODE)	
S606	1-554-303-21	SWITCH, TACTILE (BAND)	
S607	1-554-303-21	SWITCH, TACTILE (REC TIMER)	
S608	1-554-303-21	SWITCH, TACTILE (DAILY)	
S609	1-554-303-21	SWITCH, TACTILE (ONCE)	
S610	1-554-303-21	SWITCH, TACTILE (TIMER SET)	
S611	1-554-303-21	SWITCH, TACTILE (CLOCK SET)	
S612	1-554-303-21	SWITCH, TACTILE (STEREO/MONO)	
S613	1-554-303-21	SWITCH, TACTILE (DISPLAY)	

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ROTARY ENCODER TCB

Ref. No.	Part No.	Description			Remark
*	1-651-526-11	ROTARY ENCODER BOARD ********************			
		< CONNECTOR >			
* CN602	1-568-848-11	SOCKET, CONNECTOR 5P			
		< SWITCH >			
S614	1-467-314-11	ENCODER, ROTARY (CONTROLLER)			

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Ref. No.	Part No.	Description			Remark
*	A-4303-461-A	TCB BOARD, COMPLETE (E, AUS, EA, JE, SP, MY) **************************************			
*	A-4303-462-A	TCB BOARD, COMPLETE (US, CND) ****************************			
		< CAPACITOR >			
C1	1-126-934-11	ELECT	220uF	20%	16V
C2	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C3	1-163-009-11	CERAMIC CHIP	1000PF	10%	50V
C5	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C6	1-163-091-00	CERAMIC CHIP	8PF	0.25PF	50V
C7	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C12	1-164-343-11	CERAMIC CHIP	0.056uF	10%	25V (E, AUS, EA, JE, SP, MY)
C13	1-163-033-11	CERAMIC CHIP	0.022uF		50V (E, AUS, EA, JE, SP, MY)
C14	1-163-088-00	CERAMIC CHIP	5PF	0.25PF	50V (E, AUS, EA, JE, SP, MY)
C21	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C22	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C23	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C24	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C25	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C26	1-164-346-11	CERAMIC CHIP	1uF		16V
C27	1-124-257-00	ELECT	2.2uF	20%	50V
C28	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C29	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C31	1-124-257-00	ELECT	2.2uF	20%	50V
C32	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C33	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C34	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C51	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C52	1-126-162-11	ELECT	3.3uF	20%	50V
C53	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C54	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C55	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C57	1-164-346-11	CERAMIC CHIP	1uF		16V
C58	1-164-346-11	CERAMIC CHIP	1uF		16V
C59	1-164-346-11	CERAMIC CHIP	1uF		16V

Ref. No.	Part No.	Description			Remark
C60	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C61	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V (E, AUS, EA, JE, SP, MY)
C61	1-163-023-00	CERAMIC CHIP	0.015uF		50V (US, CND)
C62	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V (E, AUS, EA, JE, SP, MY)
C62	1-163-023-00	CERAMIC CHIP	0.015uF		50V (US, CND)
C63	1-126-301-11	ELECT	1uF	20%	50V
C64	1-126-301-11	ELECT	1uF	20%	50V
C65	1-126-301-11	ELECT	1uF	20%	50V
C66	1-126-301-11	ELECT	1uF	20%	50V
C70	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C71	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C72	1-126-934-11	ELECT	220uF	20%	16V
C73	1-124-257-00	ELECT	2.2uF	20%	50V
C74	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C75	1-126-157-11	ELECT	10uF	20%	16V
C76	1-126-933-11	ELECT	100uF	20%	16V
C77	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C78	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C79	1-126-157-11	ELECT	10uF	20%	16V
C80	1-126-925-11	ELECT	470uF	20%	10V
C81	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C82	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C86	1-163-016-00	CERAMIC CHIP	3900PF	10%	50V
C87	1-163-016-00	CERAMIC CHIP	3900PF	10%	50V
		< FILTER >			
CF1	1-567-389-11	FILTER, CERAMIC			
CF51	1-567-389-11	FILTER, CERAMIC			
		< TERMINAL >			
* CN3	1-537-613-11	TERMINAL (8P)			
		< VARIABLE CAPACITOR >			
CV1	1-141-227-00	CAP, TRIMMER (E, AUS, EA, JE, SP, MY)			
CV2	1-141-227-00	CAP, TRIMMER (E, AUS, EA, JE, SP, MY)			
		< DIODE >			
D1	8-719-976-30	DIODE	KV1560N (E, AUS, EA, JE, SP, MY)		
D21	8-719-422-46	DIODE	MA8056		
D51	8-719-016-74	DIODE	1SS352		
		< FRONT END >			
FE1	1-465-673-11	FRONT END (2 BAND)			
FE2	1-239-260-11	ESCAPSULATED COMPONENT (US, CND)			
FE2	1-239-262-11	ESCAPSULATED COMPONENT			(E, AUS, EA, JE, SP, MY)

Ref. No.	Part No.	Description	Remark
		< IC >	
IC21	8-759-821-43	IC LC7218M	
IC51	8-759-823-68	IC LA1851NM	
		< TRANSFORMER >	
IFT51	1-406-821-11	COIL (DISCRIMINATOR)	
IFT52	1-404-713-11	TRANSFORMER, IF	
		< JUMPER RESISTOR >	
JW1	1-216-295-00	METAL CHIP 0 5% 1/10W	
JW2	1-216-295-00	METAL CHIP 0 5% 1/10W	
JW3	1-216-295-00	METAL CHIP 0 5% 1/10W	(E, AUS, EA, JE, SP, MY)
JW4	1-216-295-00	METAL CHIP 0 5% 1/10W	(US, CND)
JW5	1-216-295-00	METAL CHIP 0 5% 1/10W	(US, CND)
JW6	1-216-295-00	METAL CHIP 0 5% 1/10W	
		< COIL >	
L51	1-408-798-00	CHIP INDUCTOR 1MMH	
		< FILTER >	
LPF51	1-239-597-11	FILTER, LOW PASS	
LPF52	1-239-597-11	FILTER, LOW PASS	
		< TRANSISTOR >	
Q1	8-729-804-72	TRANSISTOR 2SC2814-F4	
Q3	8-729-810-16	TRANSISTOR 2SA1678	
Q4	8-729-602-36	TRANSISTOR 2SA1602-F	(E, AUS, EA, JE, SP, MY)
Q5	8-729-602-36	TRANSISTOR 2SA1602-F	(E, AUS, EA, JE, SP, MY)
Q6	8-729-810-28	TRANSISTOR 2SC4398	(E, AUS, EA, JE, SP, MY)
Q7	8-729-810-28	TRANSISTOR 2SC4398	(E, AUS, EA, JE, SP, MY)
Q21	8-729-602-21	TRANSISTOR 2SC4154-F	
Q22	8-729-232-69	TRANSISTOR 2SK208GR3	
Q23	8-729-232-59	TRANSISTOR 2SC4666B	
Q51	8-729-602-21	TRANSISTOR 2SC4154-F	
Q52	8-729-602-21	TRANSISTOR 2SC4154-F	
Q53	8-729-810-28	TRANSISTOR 2SC4398	
		< RESISTOR >	
R1	1-216-037-00	METAL CHIP 330 5% 1/10W	
R2	1-216-037-00	METAL CHIP 330 5% 1/10W	
R3	1-216-109-00	METAL CHIP 330K 5% 1/10W	
R4	1-216-037-00	METAL CHIP 330 5% 1/10W	
R7	1-216-017-00	METAL CHIP 47 5% 1/10W	
R8	1-216-073-00	METAL CHIP 10K 5% 1/10W	(E, AUS, EA, JE, SP, MY)
R9	1-216-089-11	METAL CHIP 47K 5% 1/10W	
R10	1-216-097-11	METAL CHIP 100K 5% 1/10W	
R16	1-216-073-00	METAL CHIP 10K 5% 1/10W	(E, AUS, EA, JE, SP, MY)
R17	1-216-121-00	METAL CHIP 1M 5% 1/10W	(E, AUS, EA, JE, SP, MY)
R18	1-216-073-00	METAL CHIP 10K 5% 1/10W	(E, AUS, EA, JE, SP, MY)
R21	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R22	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R23	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R24	1-216-025-00	METAL CHIP 100 5% 1/10W	
R25	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R26	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R27	1-216-073-00	METAL CHIP 10K 5% 1/10W	(E, AUS, EA, JE, SP, MY)
R28	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R29	1-216-025-00	METAL CHIP 100 5% 1/10W	
R30	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R31	1-216-043-00	METAL CHIP 560 5% 1/10W	
R32	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R33	1-216-035-00	METAL CHIP 270 5% 1/10W	
R34	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R35	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R36	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R37	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R38	1-216-025-00	METAL CHIP 100 5% 1/10W	
R51	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R52	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R53	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R54	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R55	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R57	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R58	1-216-066-00	METAL CHIP 5.1K 5% 1/10W	
R59	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R60	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R61	1-216-115-00	METAL CHIP 560K 5% 1/10W	
R62	1-216-115-00	METAL CHIP 560K 5% 1/10W	
R63	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R64	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R65	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R66	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R67	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R68	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R69	1-216-025-00	METAL CHIP 100 5% 1/10W	
R70	1-216-025-00	METAL CHIP 100 5% 1/10W	
R71	1-216-089-11	METAL CHIP 47K 5% 1/10W	
R72	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R73	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R74	1-216-013-00	METAL CHIP 33 5% 1/10W	

TCB

Ref. No.	Part No.	Description			Remark
		< VARIABLE RESISTOR >			
RV51	1-238-601-11	RES, ADJ, CARBON 22K			
RV52	1-238-601-11	RES, ADJ, CARBON 22K			
RV53	1-238-598-11	RES, ADJ, CARBON 2.2K			
		< COIL >			
T1	1-402-424-11	COIL (ANT, SW3)(E, AUS, EA, JE, SP, MY)			
T2	1-406-346-11	COIL (OSC, SW3)(E, AUS, EA, JE, SP, MY)			
		< CONNECTOR >			
TP51	1-564-505-11	PLUG, CONNECTOR 2P			
		< VIBRATOR >			
X21	1-579-585-11	VIBRATOR, CRYSTAL (7.2MHz)			
X51	1-577-075-11	OSCILLATOR, CERAMIC (456kHz)			
*	A-4303-459-A	TCB BOARD, COMPLETE (AEP, UK) ****************************			
*	A-4303-460-A	TCB BOARD, COMPLETE (G, IT) **************************			
		< CAPACITOR >			
C1	1-126-934-11	ELECT	220uF	20%	16V
C2	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C3	1-163-009-11	CERAMIC CHIP	1000PF	10%	50V
C5	1-163-031-11	CERAMIC CHIP	0.01uF		50V (AEP, UK)
C6	1-163-038-00	CERAMIC CHIP	0.1uF		25V (AEP, UK)
C6	1-216-295-00	METAL CHIP	0	5%	1/10W (G, IT)
C8	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C9	1-163-012-00	CERAMIC CHIP	1800PF	10%	50V (AEP, UK)
C10	1-163-011-11	CERAMIC CHIP	1500PF	10%	50V (AEP, UK)
C11	1-163-089-00	CERAMIC CHIP	6PF	0.5PF	50V (AEP, UK)
C11	1-163-091-00	CERAMIC CHIP	8PF	0.25PF	50V (G, IT)
C12	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C13	1-163-089-00	CERAMIC CHIP	6PF	0.5PF	50V (AEP, UK)
C21	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C22	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C23	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C24	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C25	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C26	1-164-346-11	CERAMIC CHIP	1uF		16V
C27	1-124-257-00	ELECT	2.2uF	20%	50V
C29	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C31	1-124-257-00	ELECT	2.2uF	20%	50V
C32	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C33	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C34	1-164-005-11	CERAMIC CHIP	0.47uF		25V (AEP, UK)
C35	1-163-033-00	CERAMIC CHIP	0.022uF		50V (AEP, UK)
C36	1-163-033-00	CERAMIC CHIP	0.022uF		50V (AEP, UK)
C51	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C52	1-126-162-11	ELECT	3.3uF	20%	50V
C53	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C54	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C55	1-163-105-00	CERAMIC CHIP	33PF	5%	50V (AEP, UK)
C55	1-163-135-00	CERAMIC CHIP	560PF	5%	50V (G, IT)
C56	1-163-117-00	CERAMIC CHIP	100PF	5%	50V (G, IT)
C57	1-164-346-11	CERAMIC CHIP	1uF		16V
C58	1-164-346-11	CERAMIC CHIP	1uF		16V
C59	1-164-346-11	CERAMIC CHIP	1uF		16V
C60	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C61	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V
C62	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V
C63	1-164-346-11	CERAMIC CHIP	1uF		16V
C64	1-164-346-11	CERAMIC CHIP	1uF		16V
C65	1-164-346-11	CERAMIC CHIP	1uF		16V
C66	1-164-346-11	CERAMIC CHIP	1uF		16V
C69	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C71	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C72	1-126-934-11	ELECT	220uF	20%	16V
C73	1-124-257-00	ELECT	2.2uF	20%	50V
C74	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C75	1-126-157-11	ELECT	10uF	20%	16V
C76	1-126-933-11	ELECT	100uF	20%	16V
C79	1-126-157-11	ELECT	10uF	20%	16V
C80	1-126-925-11	ELECT	470uF	20%	10V
C81	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C82	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C83	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C86	1-163-016-00	CERAMIC CHIP	3900PF	10%	50V
C87	1-163-016-00	CERAMIC CHIP	3900PF	10%	50V
		< FILTER >			
CF1	1-567-389-11	FILTER, CERAMIC			
CF2	1-567-389-11	FILTER, CERAMIC (G, IT)			
CF51	1-567-389-11	FILTER, CERAMIC			
		< TERMINAL >			
* CN3	1-537-613-11	TERMINAL (8P)			

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D21	8-719-422-46	DIODE MA8056	
D51	8-719-016-74	DIODE 1SS352	
		< FRONT END >	
FE1	1-465-673-11	FRONT END (2 BAND)	(AEP, UK)
FE1	1-465-007-11	FRONT END (4 GANG)	(G, IT)
FE2	1-239-261-12	ESCAPSULATED COMPONENT	(AEP, UK)
FE2	1-239-260-11	ESCAPSULATED COMPONENT	(G, IT)
FE3	1-236-463-11	ESCAPSULATED COMPONENT	(AEP, UK)
		< FILTER >	
FL51	1-239-029-11	ESCAPSULATED COMPONENT	(G, IT)
		< IC >	
IC21	8-759-821-43	IC LC7218M	
IC51	8-759-823-68	IC LA1851NM	
		< TRANSFORMER >	
IFT51	1-406-821-11	COIL (DISCRIMINATOR)	
IFT52	1-404-713-11	TRANSFORMER, IF	
		< JUMPER RESISTOR >	
JW1	1-216-295-00	METAL CHIP 0 5% 1/10W	
JW2	1-216-295-00	METAL CHIP 0 5% 1/10W	(AEP, UK)
JW3	1-216-295-00	METAL CHIP 0 5% 1/10W	(G, IT)
JW4	1-216-295-00	METAL CHIP 0 5% 1/10W	(G, IT)
JW5	1-216-295-00	METAL CHIP 0 5% 1/10W	
JW6	1-216-295-00	METAL CHIP 0 5% 1/10W	(G, IT)
JW7	1-216-295-00	METAL CHIP 0 5% 1/10W	
JW8	1-216-295-00	METAL CHIP 0 5% 1/10W	
JW9	1-216-295-00	METAL CHIP 0 5% 1/10W	
		< COIL >	
L1	1-408-793-21	CHIP INDUCTOR 220uH	(AEP, UK)
L51	1-408-798-00	CHIP INDUCTOR 1MMH	
		< FILTER >	
LPF51	1-239-597-11	FILTER, LOW PASS	
LPF52	1-239-597-11	FILTER, LOW PASS	
		< TRANSISTOR >	
Q1	8-729-804-72	TRANSISTOR 2SC2814-F4	
Q2	8-729-804-72	TRANSISTOR 2SC2814-F4	(G, IT)
Q3	8-729-810-16	TRANSISTOR 2SA1678	
Q4	8-729-602-36	TRANSISTOR 2SA1602-F	(AEP, UK)
Q5	8-729-810-28	TRANSISTOR 2SC4398	(AEP, UK)
Q6	8-729-602-36	TRANSISTOR 2SA1602-F	(AEP, UK)
Q7	8-729-810-28	TRANSISTOR 2SC4398	(AEP, UK)
Q21	8-729-602-21	TRANSISTOR 2SC4154-F	
Q22	8-729-232-69	TRANSISTOR 2SK208GR3	
Q23	8-729-232-59	TRANSISTOR 2SC4666B	
Q24	8-729-232-69	TRANSISTOR 2SK208GR3	(AEP, UK)
Q25	8-729-232-59	TRANSISTOR 2SC4666B	(AEP, UK)
Q51	8-729-602-21	TRANSISTOR 2SC4154-F	
Q52	8-729-602-21	TRANSISTOR 2SC4154-F	
Q53	8-729-810-28	TRANSISTOR 2SC4398	
		< RESISTOR >	
R1	1-216-037-00	METAL CHIP 330 5% 1/10W	
R2	1-216-037-00	METAL CHIP 330 5% 1/10W	
R3	1-216-109-00	METAL CHIP 330K 5% 1/10W	
R4	1-216-037-00	METAL CHIP 330 5% 1/10W	
R5	1-216-109-00	METAL CHIP 330K 5% 1/10W	(G, IT)
R6	1-216-037-00	METAL CHIP 330 5% 1/10W	(G, IT)
R7	1-216-017-00	METAL CHIP 47 5% 1/10W	
R8	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	(AEP, UK)
R9	1-216-089-11	METAL CHIP 47K 5% 1/10W	(AEP, UK)
R10	1-216-097-11	METAL CHIP 100K 5% 1/10W	(AEP, UK)
R11	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	(AEP, UK)
R12	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	(AEP, UK)
R13	1-216-089-11	METAL CHIP 47K 5% 1/10W	
R14	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R15	1-216-121-00	METAL CHIP 1M 5% 1/10W	(AEP, UK)
R15	1-216-295-00	METAL CHIP 0 5% 1/10W	(G, IT)
R16	1-216-089-11	METAL CHIP 47K 5% 1/10W	(AEP, UK)
R21	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R22	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R23	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R24	1-216-025-00	METAL CHIP 100 5% 1/10W	
R25	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R26	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R27	1-216-073-00	METAL CHIP 10K 5% 1/10W	(AEP, UK)
R28	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R29	1-216-025-00	METAL CHIP 100 5% 1/10W	
R30	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R31	1-216-043-00	METAL CHIP 560 5% 1/10W	
R32	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R33	1-216-035-00	METAL CHIP 270 5% 1/10W	
R34	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R35	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R36	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R37	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R38	1-216-025-00	METAL CHIP 100 5% 1/10W	
R39	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	(AEP, UK)
R40	1-216-043-00	METAL CHIP 560 5% 1/10W	(AEP, UK)
R41	1-216-049-00	METAL CHIP 1K 5% 1/10W	(AEP, UK)
R42	1-216-035-00	METAL CHIP 270 5% 1/10W	(AEP, UK)
R43	1-216-081-00	METAL CHIP 22K 5% 1/10W	(AEP, UK)

TCB TRANSFORMER

Ref. No.	Part No.	Description	Remark
R44	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	(AEP, UK)
R45	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	(AEP, UK)
R46	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	(AEP, UK)
R51	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R52	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R53	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R54	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R55	1-216-075-00	METAL CHIP 12K 5% 1/10W	(AEP, UK)
R56	1-216-075-00	METAL CHIP 12K 5% 1/10W	(G, IT)
R57	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R58	1-216-066-00	METAL CHIP 5.1K 5% 1/10W	
R59	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R60	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R61	1-216-115-00	METAL CHIP 560K 5% 1/10W	
R62	1-216-115-00	METAL CHIP 560K 5% 1/10W	
R63	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R64	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R65	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R66	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R67	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R68	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R69	1-216-025-00	METAL CHIP 100 5% 1/10W	
R70	1-216-025-00	METAL CHIP 100 5% 1/10W	
R71	1-216-089-11	METAL CHIP 47K 5% 1/10W	
R72	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R73	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R74	1-216-013-00	METAL CHIP 33 5% 1/10W	
R75	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
		< VARIABLE RESISTOR >	
RV51	1-238-601-11	RES, ADJ, CARBON 22K	
RV52	1-238-601-11	RES, ADJ, CARBON 22K	
RV53	1-238-598-11	RES, ADJ, CARBON 2.2K	
		< CONNECTOR >	
TP51	1-564-505-11	PLUG, CONNECTOR 2P	
		< VIBRATOR >	
X21	1-579-585-11	VIBRATOR, CRYSTAL (7.2MHz)	
X51	1-577-075-11	OSCILLATOR, CERAMIC (456kHz)	

****

Ref. No.	Part No.	Description	Remark
*	1-651-527-11	TRANSFORMER BOARD *****************	
		< CONNECTOR >	
* CN801	1-568-850-11	SOCKET, CONNECTOR 7P	
		< TRANSFORMER >	
⚠T801	1-423-811-11	TRANSFORMER, POWER	

****

MISCELLANEOUS
****

Ref. No.	Part No.	Description
5	1-765-242-31	WIRE (FLAT TYPE) (19 CORE)
11	1-590-769-31	WIRE, FLAT TYPE (7 CORE)
12	1-751-686-11	WIRE (FLAT TYPE) (5 CORE)
⚠T801	1-423-811-11	TRANSFORMER POWER

****

****
HARDWARE LIST
****

Ref. No.	Part No.	Description
#1	7-682-547-09	SCREW +BVTT 3X6 (S)
#2	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Sony Corporation
Audio Group

English
94B0997-1
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Published by Audio Sector Quality Assurance Dept.

TC-H7900

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model
Tourist Model

TC-H7900 is the STEREO CASSETTE
DECK section in MHC-7900/ P100X

Model Name Using Similer Mechanism		TC-H4800
Tape Transport Mechanism Type	DECK–A	TC-190RA12A
	DECK–B	TC-190RB12 A

SPECIFICATIONS

Tape player
Recording system
4-track 2-channel stereo
Frequency response
(DOLBY NR OFF)
40 – 13,000 Hz (±3 dB),
using Sony TYPE I cassette
40 – 14,000 Hz (±3 dB),
using Sony TYPE II cassette
40 – 15,000 Hz (± 3 dB),
using Sony TYPE IV cassette
Wow and flutter
0.1% WRMS ±0.3% (DIN)
Dimensions
Approx. 225 x 130 x 230 mm (w/h/d)
(8 7/8 x 5 1/8 x 9 1/8 inches)
Mass Approx. 2.7 kg
(5 lb 15 oz)

Design and specifications subject to change without notice.

* Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen. "DOLBY", the double-D symbol ◘◘ and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

STEREO CASSETTE DECK

SONY®

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Fiexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

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SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer: Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

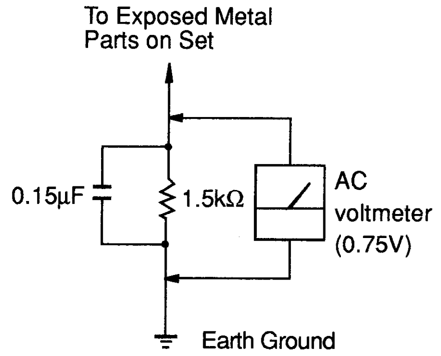


Fig. A. Using an AC voltmeter to check AC leakage.

SECTION 1

SERVICE NOTE

- **Power Supply Used In Servicing**

This unit does not have its own power supply. As it works on the power supplied from the amplifier (TA-H7900E) used for this series, connect this amplifier when servicing the unit (conduction repair, etc.).

Power can also be supplied by connecting the "CDP/TC" connector of the conduction tool (PFJ-1). The following three items are required for this connection.

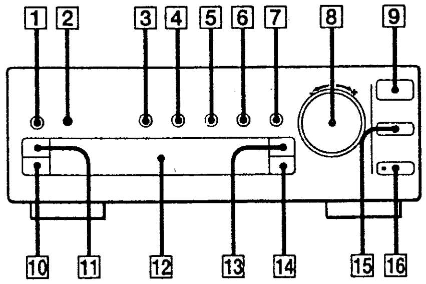
- J-2501-063-A
- 1-696-741-11 CORD, (WITH CONNECTOR)
- 1-751-541-11 CORD, (WITH CONNECTOR)

SECTION 2
GENERAL

This section is extracted from instruction manual.

Front Panel

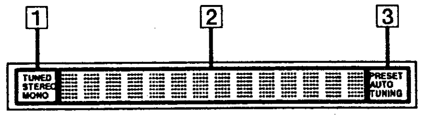
Tuner



1 Remote sensor
2 CLOCK SET button (6)
3 TIMER SET button (25)
4 ONCE button* (25)
5 DAILY button* (25)
6 REC TIMER button* (26)
7 SLEEP button* (25)
8 CONTROLLER control* (6, 10, 25)
9 BAND button (10, 16)
10 DISPLAY button (6, 11)
11 STEREO/MONO button (10)
12 Display window (6, 10)
13 MEMORY button (11)
14 STATION NAME button (11)
15 TUNING MODE button (10)
16 ENTER/NEXT button* (6, 11, 25)

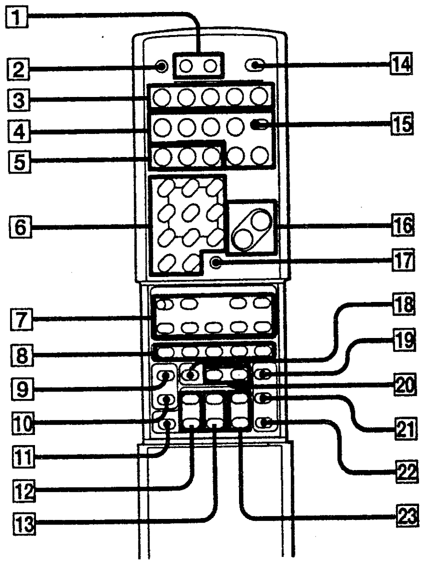
Display Window

Tuner



1 Receiving status indication (10)
2 Frequency/station name/time indication (10, 25)
3 Tuning mode indication (10)

Remote commander

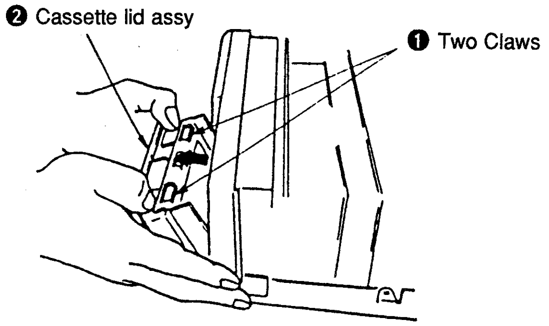


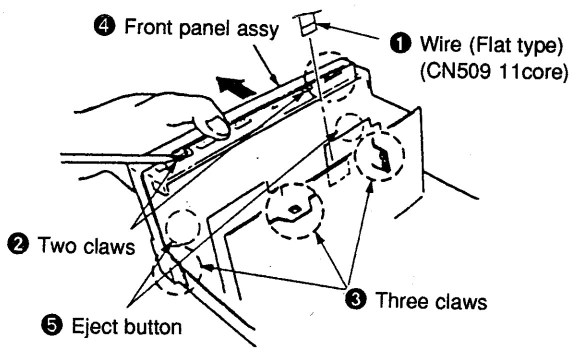
1 TAPE DECK A/B buttons (12)
2 SLEEP button (25)
3 CD/MD operating buttons (7, 16)
4 Cassette deck operating buttons (12)
5 Tuner operating buttons (11)
6 CD/Tuner/LPC numeric buttons (8, 11, 22)
7 VCR operating buttons (28)
8 TV operating buttons (28)
9 AUDIO FUNCTION button (28)
10 VIDEO FUNCTION button (28)
11 TEST TONE button (23)
12 REAR LEVEL +/– buttons (23)
13 CENTER LEVEL +/– buttons (23)
14 SYSTEM POWER switch (7)
15 CD/MD switch (7)
16 VOLUME +/– buttons (7)
17 LPC (Listening point control) button (22)
18 DIRECT button (18)
19 CHECK button (8)
20 MENU +/– button (18)
21 CLEAR button (8)
22 REPEAT button (9)
23 DELAY TIME +/– button (23)

SECTION 3
DISASSEMBLY

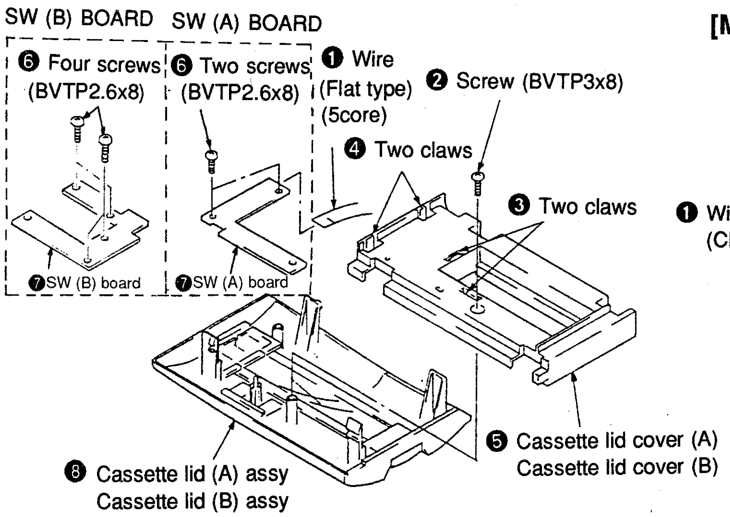
Note: Follow the disassembly procedure in the numerical order given.

[FRONT PANEL]

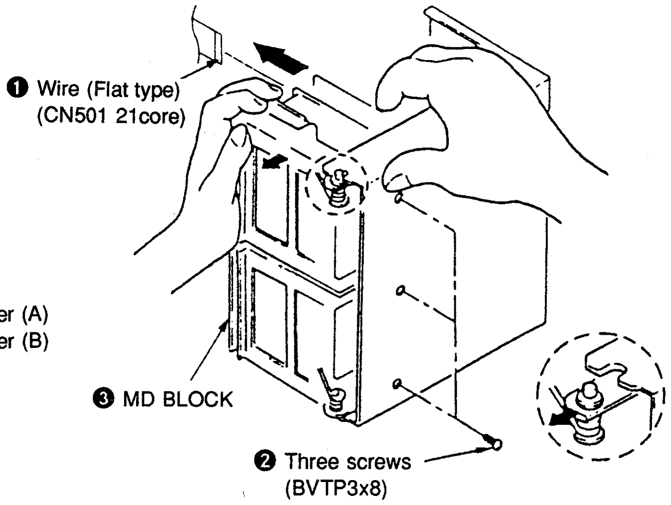

❷ Cassette lid assy
❶ Two Claws


❹ Front panel assy
❶ Wire (Flat type)
(CN509 11core)
❷ Two claws
❺ Eject button
❸ Three claws

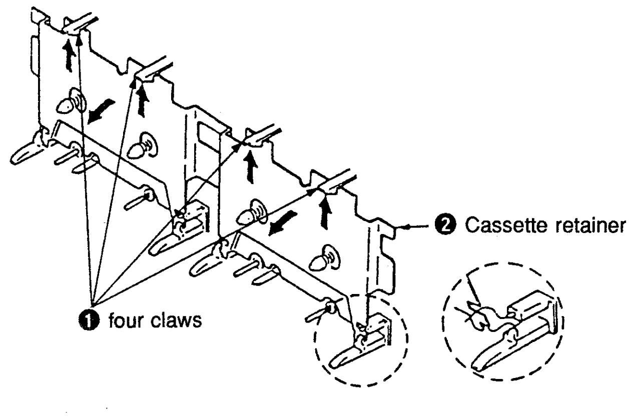
[SW (A), (B) BOARD]


SW (B) BOARD
SW (A) BOARD
❻ Four screws
(BVTP2.6x8)
❻ Two screws
(BVTP2.6x8)
❶ Wire
(Flat type)
(5core)
❷ Screw (BVTP3x8)
❹ Two claws
❸ Two claws
❼SW (B) board
❼SW (A) board
❺ Cassette lid cover (A)
Cassette lid cover (B)
❽ Cassette lid (A) assy
Cassette lid (B) assy

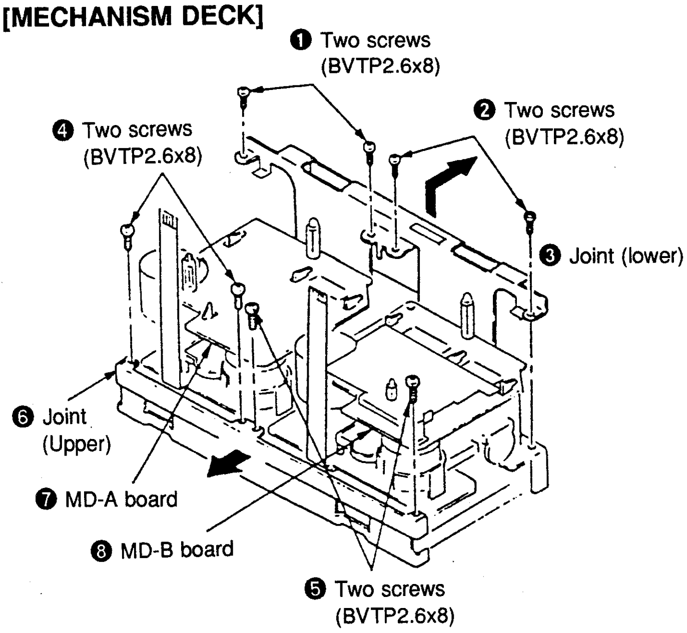
[MD BLOCK]


❶ Wire (Flat type)
(CN501 21core)
❸ MD BLOCK
❷ Three screws
(BVTP3x8)

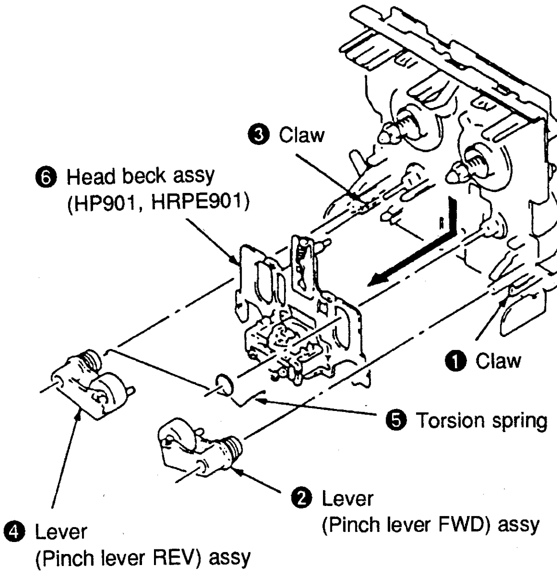
[CASSETTE RETAINER]


❷ Cassette retainer
❶ four claws

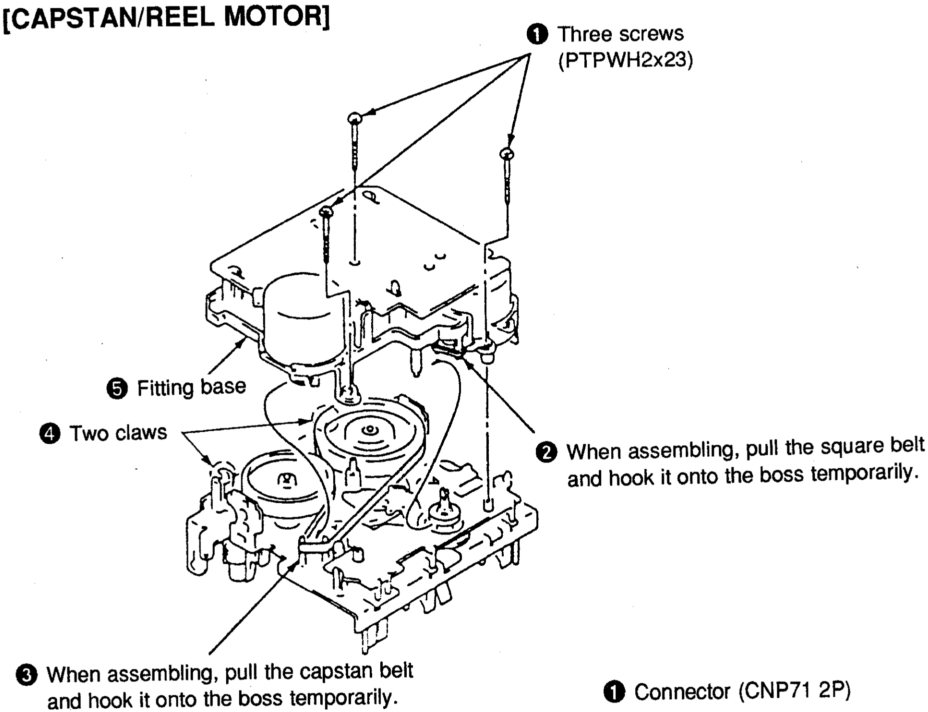
[MECHANISM DECK]

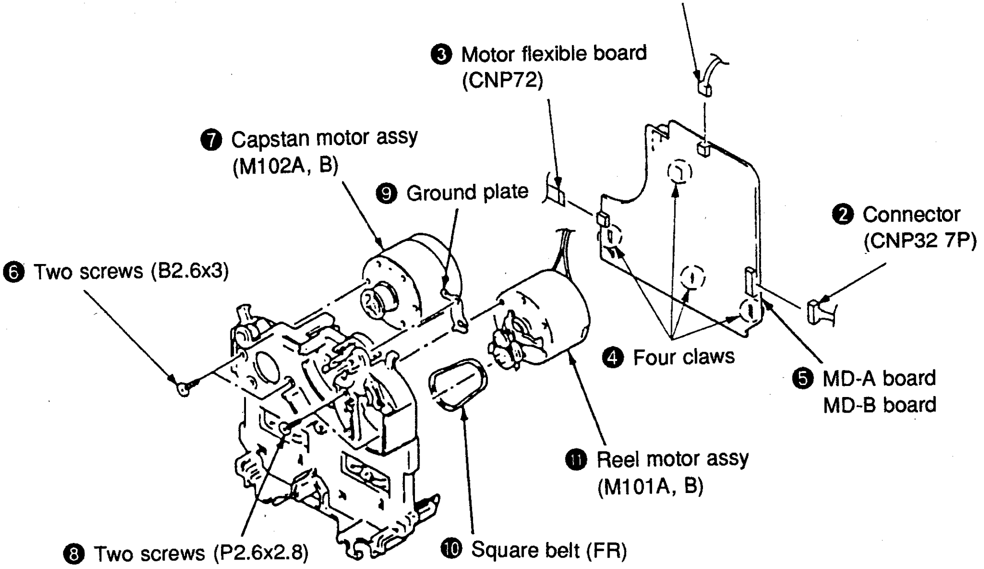

① Two screws
(BVTP2.6x8)
④ Two screws
(BVTP2.6x8)
② Two screws
(BVTP2.6x8)
③ Joint (lower)
⑥ Joint
(Upper)
⑦ MD-A board
⑧ MD-B board
⑤ Two screws
(BVTP2.6x8)

[HEAD DECK ASSY]


③ Claw
⑥ Head beck assy
(HP901, HRPE901)
① Claw
⑤ Torsion spring
② Lever
(Pinch lever FWD) assy
④ Lever
(Pinch lever REV) assy

[CAPSTAN/REEL MOTOR]


① Three screws
(PTPWH2x23)
⑤ Fitting base
④ Two claws
② When assembling, pull the square belt and hook it onto the boss temporarily.
③ When assembling, pull the capstan belt and hook it onto the boss temporarily.


① Connector (CNP71 2P)
③ Motor flexible board
(CNP72)
⑦ Capstan motor assy
(M102A, B)
⑨ Ground plate
② Connector
(CNP32 7P)
⑥ Two screws (B2.6x3)
④ Four claws
⑤ MD-A board
MD-B board
⑪ Reel motor assy
(M101A, B)
⑧ Two screws (P2.6x2.8)
⑩ Square belt (FR)

SECTION 4
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :

record/playback head	pinch roller
erase head	rubber belt
capstan	idler

2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustment.
4. After the adjustment, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

• Torque Measurement

Torque	Torque meter	Meter reading
Forward	CQ-102C	30 to 65 g • cm (0.42 — 0.90 oz • inch)
Forward Back tension	CQ-102C	1.5 to 6 g • cm (0.020 to 0.08 oz • inch)
Reverse	CQ-102RC	30 to 65 g • cm (0.42 — 0.90 oz • inch)
Reverse Back tension	CQ-102RC	1.5 to 6 g • cm (0.020 to 0.08 oz • inch)
FF/ REW	CQ-201B	70 to 120 g • cm (0.98 to 1.67 oz • inch)

SECTION 5
ELECTRICAL ADJUSTMENTS

1. The adjustment should be peromed in the publication. (Be sure to make playback adjustment at first.)
2. The adjustment and measurement should be performed for both L-CH and R-CH.
   - Switch position
     DOLBY NR switch : OFF

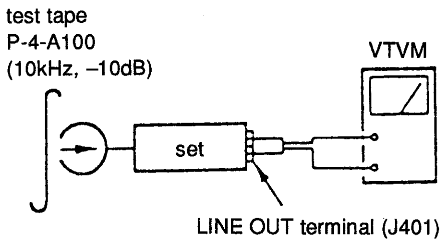
• Test Tape

Tape	Contents	Used for
P-4-A100	10kH , -10dB	Head Azimuth Adjustment
P-4-L300	315Hz, 0dB	Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

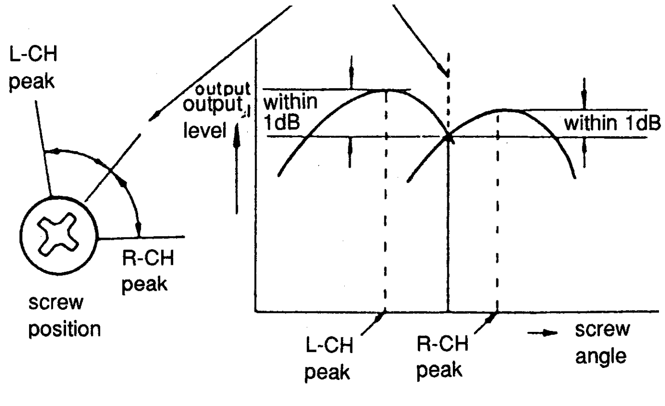
Record/ Playback Head Azimuth Adjustment
DECK A **DECK B**

Procedure :

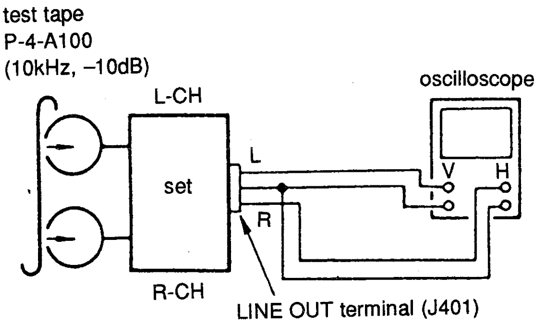
1. Forward Playback Mode

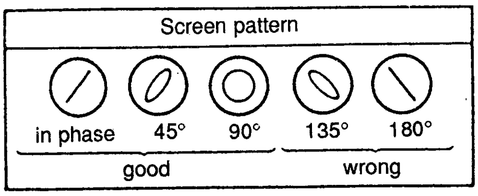


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1 dB.



3. Phase Check

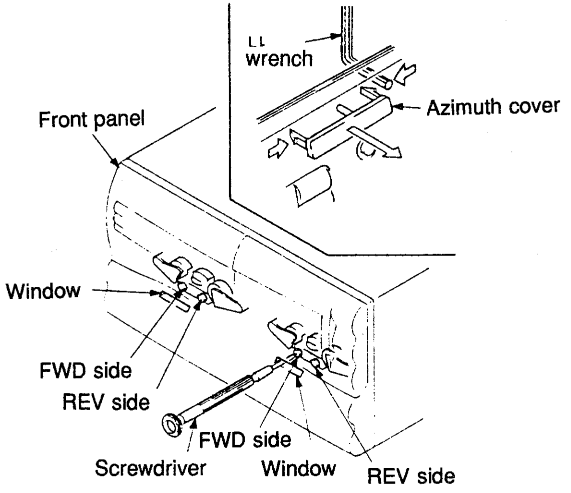

test tape
P-4-A100
(10kHz, –10dB)
L-CH
set
L
R
R-CH
oscilloscope
V
H
LINE OUT terminal (J401)


Screen pattern
in phase
45°
90°
135°
180°
good
wrong

4. Change the review playback mode and repeat the steps 1 to 3.
5. After adjustment, lock the adjustment screw with suitable locking compound.

Adjustment Location : Record/Playback head

Removal the azimuth cover using the L wrench, etc. , insert the screwdriver from the window and adjust it.

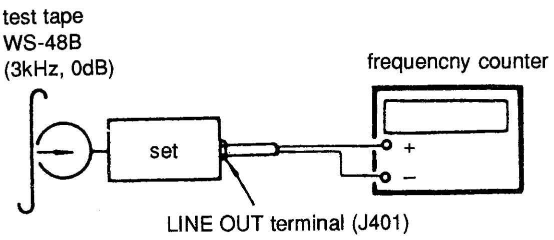

L wrench
Azimuth cover
Front panel
Window
FWD side
REV side
FWD side
Screwdriver
Window
REV side

Tape Speed Adjustment DECK A DECK B

Procedure :

- Perform high speed adjustment before normal speed adjustmant.

  Mode : playback

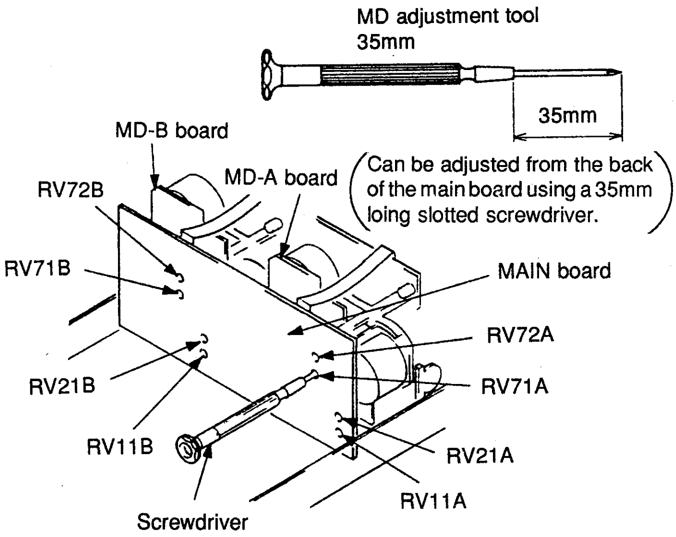

test tape
WS-48B
(3kHz, 0dB)
frequencny counter
set
+
–
LINE OUT terminal (J401)

Speed	Frequency Counter Reading
High	6,000 ± 30Hz
Normal	3,000 ± 15Hz

Frequency difference between the begining the begining and the end of the tape should be within ±3%.
Frequency difference between deck A and B the begining of the tape should be within 1%.

Adjustment Location : MD-A and MD-B boards.

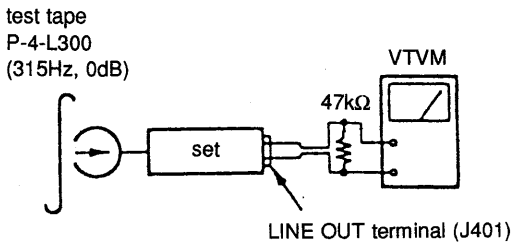
Tape Speed/Playback Level Adjustment


MD adjustment tool
35mm
35mm
MD-B board
MD-A board
RV72B
RV71B
MAIN board
RV72A
RV21B
RV71A
RV11B
RV21A
RV11A
Screwdriver

Can be adjusted from the back of the main board using a 35mm loing slotted screwdriver.

Play back Level Adjustment DECK A DECK B

Procedure :
Mode : playback


test tape
P-4-L300
(315Hz, 0dB)
VTVM
47kΩ
set
LINE OUT terminal (J401)

Deck A is RV11A (L-CH) and RV21A (R-CH), deck B is RV11B (L-CH) and RV21B (R-CH) so that adjustment within adjustment level as follows.

Adjustment Level :
LINE OUT level : –7.7dB ± 0.5dB (0.30 to 0.34V)
Level Difference between Channels : within 0.5dB

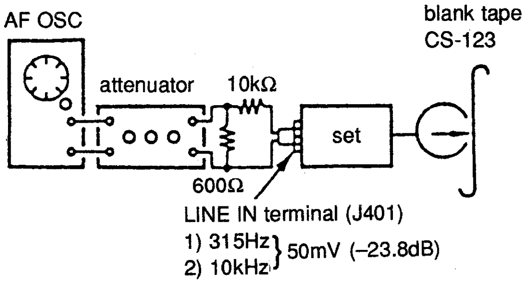
Confirm the LINE OUT level does not change in playback mode while changing the mode from playback to stop serveral times.

Adjustment Location : MD-A and MD-B borads

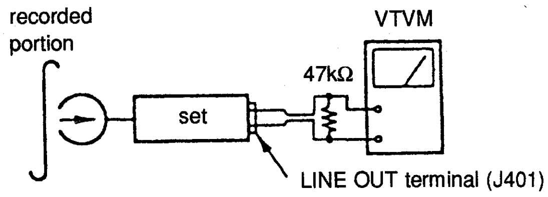
Record Blas Adjustment DECK B

Priocedure :

1. record mode


AF OSC
blank tape
CS-123
attenuator
10kΩ
set
600Ω
LINE IN terminal (J401)
1) 315Hz
2) 10kHz
50mV (–23.8dB)

2. playback mode


recorded
portion
VTVM
47kΩ
set
LINE OUT terminal (J401)

Confirm playback the signal recorded in step 1 become adjustment level as follows.
If these levels do not adjustment level, adjustment the RV81 (L-CH) and RV91 (R-CH) to repeat step 1 and 2.

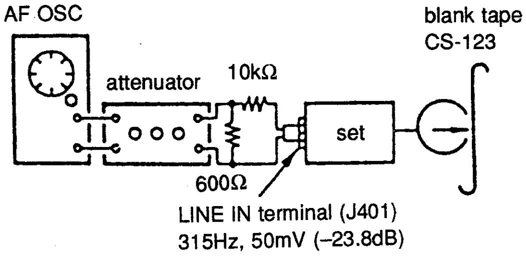
Adjustment Level : Playback output of 10kHz to playback output of 315Hz : –0.5dB to 0.5dB. (0 ± 3mV)

Adjustment Location : MD-B borad

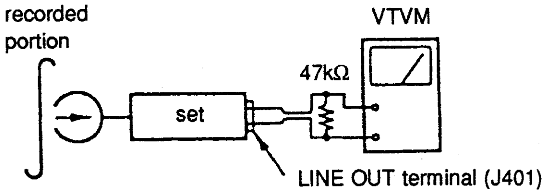
Record Level Adjustment DECK B

Procedure :

1. record mode


AF OSC
blank tape
CS-123
attenuator
10kΩ
set
600Ω
LINE IN terminal (J401)
315Hz, 50mV (–23.8dB)

2. playback mode


recorded
portion
VTVM
47kΩ
set
LINE OUT terminal (J401)

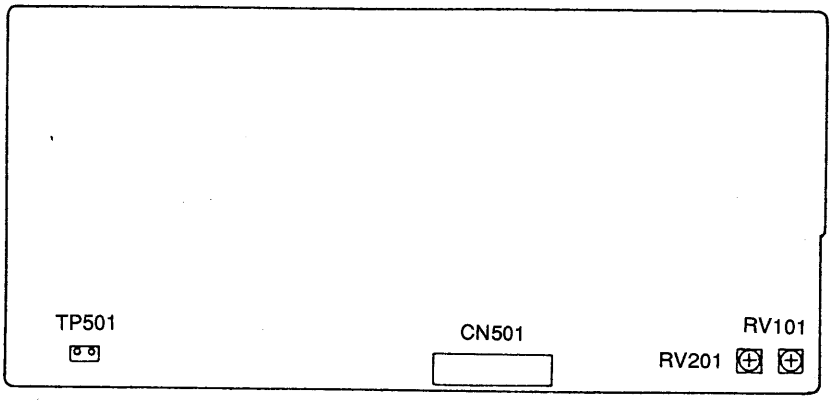
Confirm playback the signal recored in step 1 become adjustment level as follows.
If these levels do not adjustment level, adjustment the RV101 (L-CH) and RV201 (R-CH) to repeat step 1 and 2.

Adjustment Level :
LINE OUT level : –23.8dB ± 0.5dB (47 to 53mV).

Adjustment Location : MAIN borad

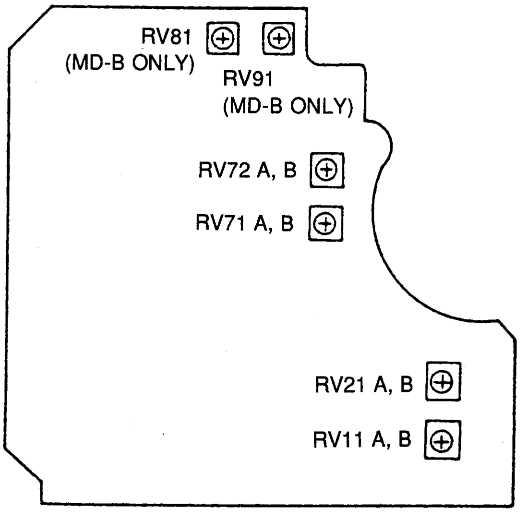
Adjustment Location :

[MAIN BOARD] — Component Side —



TP501
CN501
RV101
RV201

[MD-A, MD-B BOARD] — Component Side —

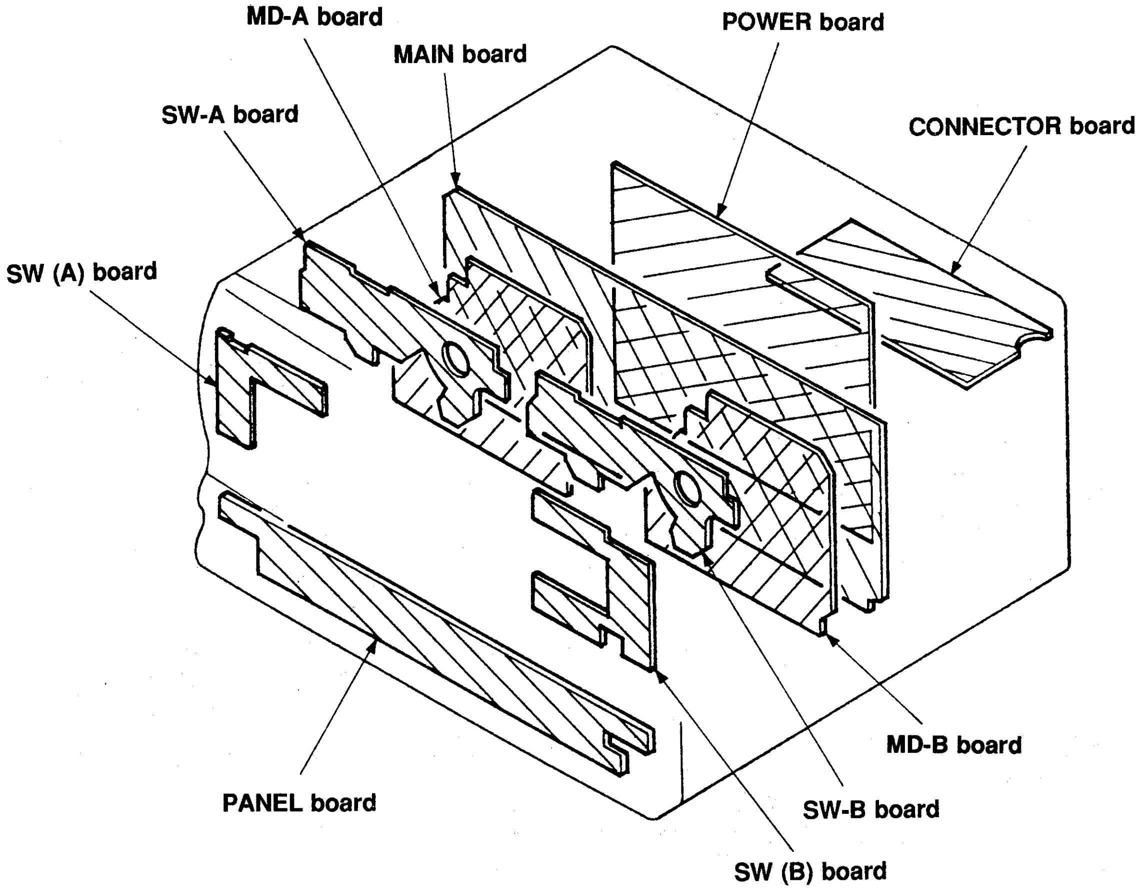


RV81
(MD-B ONLY)
RV91
(MD-B ONLY)
RV72 A, B
RV71 A, B
RV21 A, B
RV11 A, B

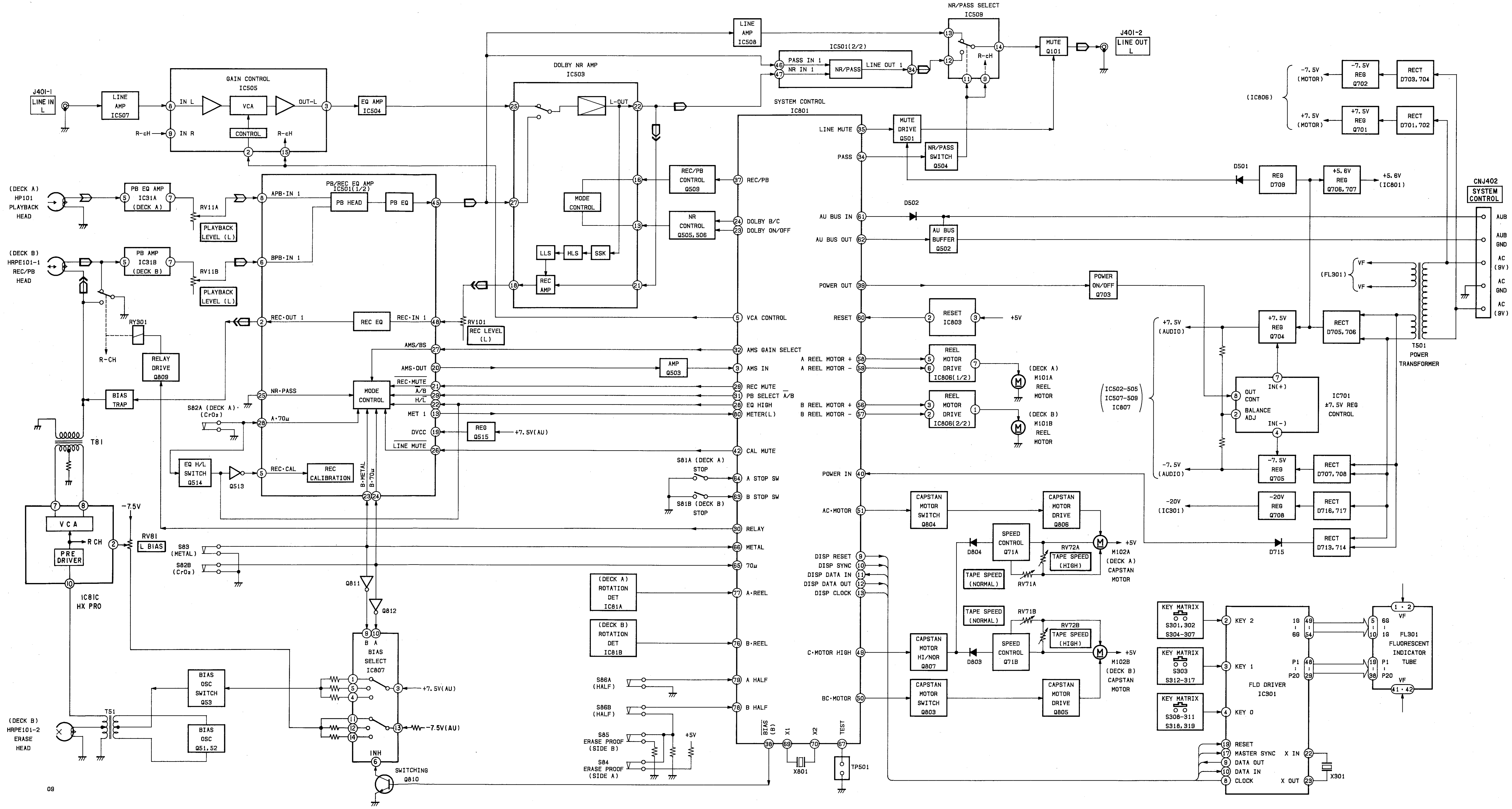
SECTION 6

DIAGRAMS

6-1. CIRCUIT BOARDS LOCATION


MD-A board
MAIN board
POWER board
SW-A board
CONNECTOR board
SW (A) board
MD-B board
PANEL board
SW-B board
SW (B) board

6-2. BLOCK DIAGRAM


J401-1 LINE IN L
LINE AMP IC507
GAIN CONTROL IC505
IN L
IN R
VCA
CONTROL
OUT-L
R-cH
EQ AMP IC504
DOLBY NR AMP IC503
L-OUT
MODE CONTROL
LLS
HLS
SSK
REC AMP
LINE AMP IC508
IC501(2/2)
PASS IN 1
NR IN 1
NR/PASS
LINE OUT 1
NR/PASS SELECT IC509
R-cH
MUTE Q101
J401-2 LINE OUT L
(DECK A) HP101 PLAYBACK HEAD
PB EQ AMP IC31A (DECK A)
RV11A
PLAYBACK LEVEL (L)
(DECK B) HRPE101-1 REC/PB HEAD
PB AMP IC31B (DECK B)
RV11B
PLAYBACK LEVEL (L)
PB/REC EQ AMP IC501(1/2)
APB-IN 1
BPB-IN 1
PB HEAD
PB EQ
REC-OUT 1
REC EQ
REC-IN 1
RV101 REC LEVEL (L)
RY301
R-CH
RELAY DRIVE Q809
BIAS TRAP
AMS/BS
AMS-OUT
REC-MUTE
A/B
H/L
NR-PASS
MODE CONTROL
MET 1
DVCC
LINE MUTE
S82A (DECK A) (CrO2)
A-70μ
EQ H/L SWITCH Q514
Q513
REC-CAL
REC CALIBRATION
B-METAL
B-70μ
REG Q515
+7.5V(AU)
AMP Q503
REC/PB CONTROL Q509
NR CONTROL Q505,506
T81
VCA
PRE DRIVER
R CH
-7.5V
RV81 L BIAS
IC81C HX PRO
S83 (METAL)
S82B (CrO2)
Q811
Q812
BIAS SELECT IC807
B A
INH
+7.5V(AU)
-7.5V(AU)
SWITCHING Q810
BIAS OSC SWITCH Q53
BIAS OSC Q51,52
T51
(DECK B) HRPE101-2 ERASE HEAD
SYSTEM CONTROL IC801
LINE MUTE
PASS
REC/PB
DOLBY B/C
DOLBY ON/OFF
AU BUS IN
AU BUS OUT
POWER OUT
RESET
VCA CONTROL
AMS GAIN SELECT
AMS IN
A REEL MOTOR +
A REEL MOTOR -
REC MUTE
PB SELECT A/B
EQ HIGH
METER(L)
B REEL MOTOR +
B REEL MOTOR -
CAL MUTE
S81A (DECK A) STOP
A STOP SW
S81B (DECK B) STOP
B STOP SW
POWER IN
RELAY
METAL
70μ
AC-MOTOR
DISP RESET
DISP SYNC
DISP DATA IN
DISP DATA OUT
DISP CLOCK
(DECK A) ROTATION DET IC81A
A-REEL
(DECK B) ROTATION DET IC81B
B-REEL
C-MOTOR HIGH
S86A (HALF)
A HALF
S86B (HALF)
B HALF
BC-MOTOR
S85 ERASE PROOF (SIDE B)
S84 ERASE PROOF (SIDE A)
+5V
BIAS (B)
X1
X2
TEST
X801
TP501
MUTE DRIVE Q501
NR/PASS SWITCH Q504
D502
AU BUS BUFFER Q502
POWER ON/OFF Q703
RESET IC809
+5V
REEL MOTOR DRIVE IC806(1/2)
(DECK A) M101A REEL MOTOR
REEL MOTOR DRIVE IC806(2/2)
(DECK B) M101B REEL MOTOR
CAPSTAN MOTOR SWITCH Q804
CAPSTAN MOTOR DRIVE Q806
SPEED CONTROL Q71A
D804
RV72A TAPE SPEED (HIGH)
TAPE SPEED (NORMAL)
RV71A
+5V
M102A (DECK A) CAPSTAN MOTOR
TAPE SPEED (NORMAL)
RV71B
RV72B TAPE SPEED (HIGH)
CAPSTAN MOTOR HI/NOR Q807
D803
SPEED CONTROL Q71B
M102B (DECK B) CAPSTAN MOTOR
CAPSTAN MOTOR SWITCH Q803
CAPSTAN MOTOR DRIVE Q805
(IC806)
-7.5V (MOTOR)
-7.5V REG Q702
RECT D703,704
+7.5V (MOTOR)
+7.5V REG Q701
RECT D701,702
D501
REG D709
+5.6V REG Q706,707
+5.6V (IC801)
CNJ402 SYSTEM CONTROL
AUB
AUB GND
AC (9V)
AC GND
AC (9V)
(FL301)
VF
VF
T501 POWER TRANSFORMER
+7.5V (AUDIO)
+7.5V REG Q704
RECT D705,706
(IC502-505 IC507-509 IC807)
OUT CONT
BALANCE ADJ
IN(+)
IN(-)
IC701 ±7.5V REG CONTROL
-7.5V (AUDIO)
-7.5V REG Q705
RECT D707,708
-20V (IC301)
-20V REG Q708
RECT D716,717
D715
RECT D713,714
KEY MATRIX S301,302 S304-307
KEY MATRIX S303 S312-317
KEY MATRIX S308-311 S318,319
KEY 2
KEY 1
KEY 0
FLD DRIVER IC301
1G 6G
P1 P20
RESET
MASTER SYNC
DATA OUT
DATA IN
CLOCK
X IN
X OUT
X301
VF
FL301 FLUORESCENT INDICATOR TUBE
6G 1G
P1 P20
09

6-3. PRINTED WIRING BOARD — MAIN SECTION —

- See page 11 for Circuit Boards Location.
- See page 30 for Semiconductor Lead Layouts.

• Semiconductor Location

Ref. No.	Location
D31	F-2
D101	D-20
D201	D-20
D501	G-17
D502	F-25
D503	C-20
D509	F-25
D801	F-23
D802	C-25
D803	C-24
D804	B-18
D805	C-24
D806	C-24
IC31A	F-9
IC31B	F-3
IC81A	B-11
IC81B	B-5
IC81C	D-4
IC501	D-19
IC503	D-15
IC504	F-15
IC505	E-18
IC507	E-19
IC508	B-17
IC509	B-16
IC801	E-24
IC803	G-23
IC806	D-25
IC807	D-22
Q51	D-3
Q52	D-3
Q53	E-3
Q71A	F-11
Q71B	E-5
Q101	G-17
Q201	G-17
Q501	F-17
Q502	F-26
Q503	C-21
Q504	F-22
Q505	F-22
Q506	F-22
Q509	E-21
Q513	C-21
Q514	C-21
Q515	D-21
Q803	G-24
Q804	G-24
Q805	B-26
Q806	B-25
Q807	C-25
Q809	C-22
Q810	D-23
Q811	D-23
Q812	D-23

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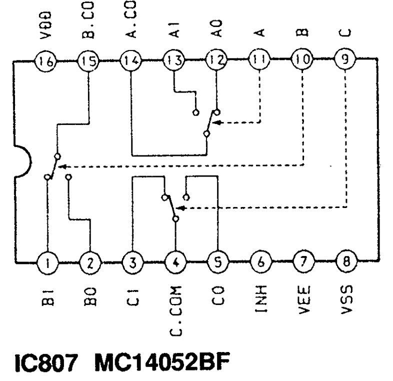
21
22
23
24
25
26
A
B
C
D
E
F
G
H
【SW-B BOARD】(RB12B)
S83 METAL DET
S86B HALF DET
S82B CrO2 DET
S85 ERASE PROOF (SIDE B)
S81B STOP DET
S84 ERASE PROOF (SIDE A)
CNP81
IC81B
1-634-841-
14
【SW-A BOARD】(RA12A)
S86A HALF DET
S82A CrO2 DET
S81A STOP DET
IC81A
【MD-B BOARD】(RB12B)
RED
WHT
BLK
(CHASSIS)
CNP71
RV81
RV91
Q51
Q52
Q53
IC81C
T51
RY31
D31
C54
Q71B
RV71B
RV72B
TP81
CNP32
IC31B
M101B REEL MOTOR
M102B CAPSTAN MOTOR
HRPE101 RECORD/PLAYBACK/ERASE HEAD
CNJ32
BRN
ORG
BLK
BLU
YEL
WHT
RED
1-638-412-
17
HP101 PLAYBACK HEAD
【SW-A BOARD】(RA12A)
C72
RV72A
RV71A
Q71A
IC31A
M101A REEL MOTOR
M102A CAPSTAN MOTOR
1-645-756-
11
【MAIN BOARD】
L801
C809
IC508
IC509
CN506
CN505
CN504
C810
C803
R821
Q803
Q804
TP501
1-649-579-
11
A
POWER BOARD
CN703
(See Page 27)
B
PANEL BOARD
CN305
(See Page 28)

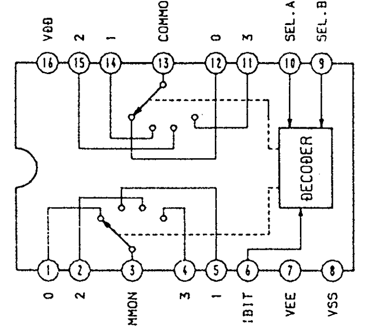
Note:
- o—— : parts extracted from the component side.
- ● : Through hole.
- ⁝⁺ indicates side identified with part number.
- ▨ : Pattern from the side which enable seeing.
- ▨ : Pattern of the rear side.

• IC BLOCK DIAGRAMS

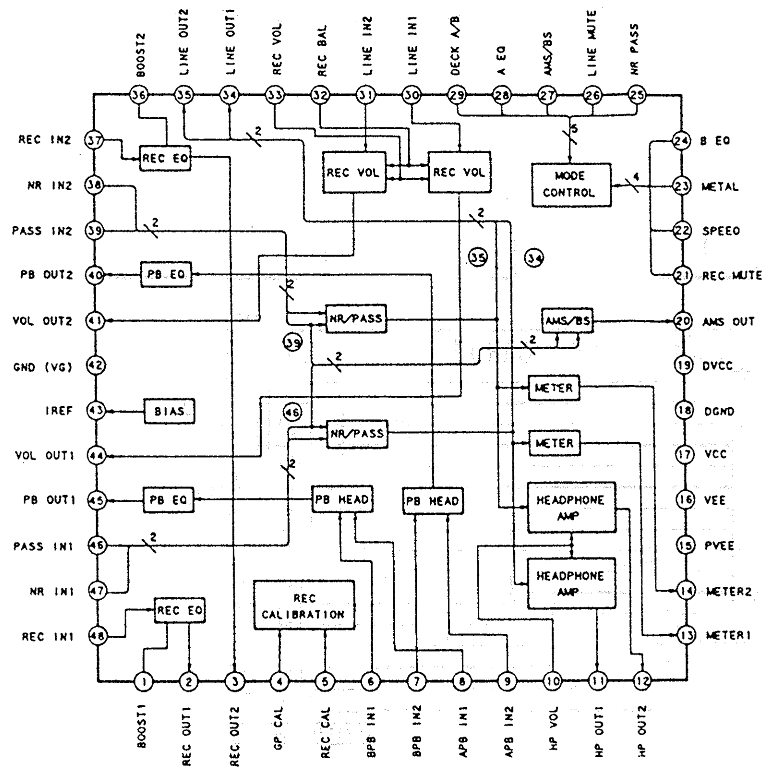
IC509 MC14053BF


VDD
B.COM
A.COM
A1
A0
A
B
C
B1
B0
C1
C.COM
C0
INH
VEE
VSS

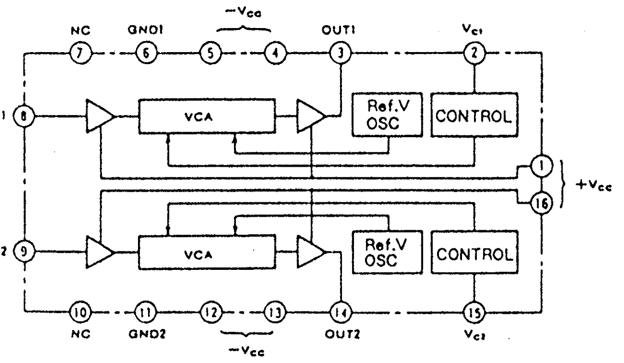
IC807 MC14052BF


VDD
2
1
COMMON
0
3
SEL.A
SEL.B
DECODER
0
2
COMMON
3
1
INHIBIT
VEE
VSS

IC501 CXA1599Q

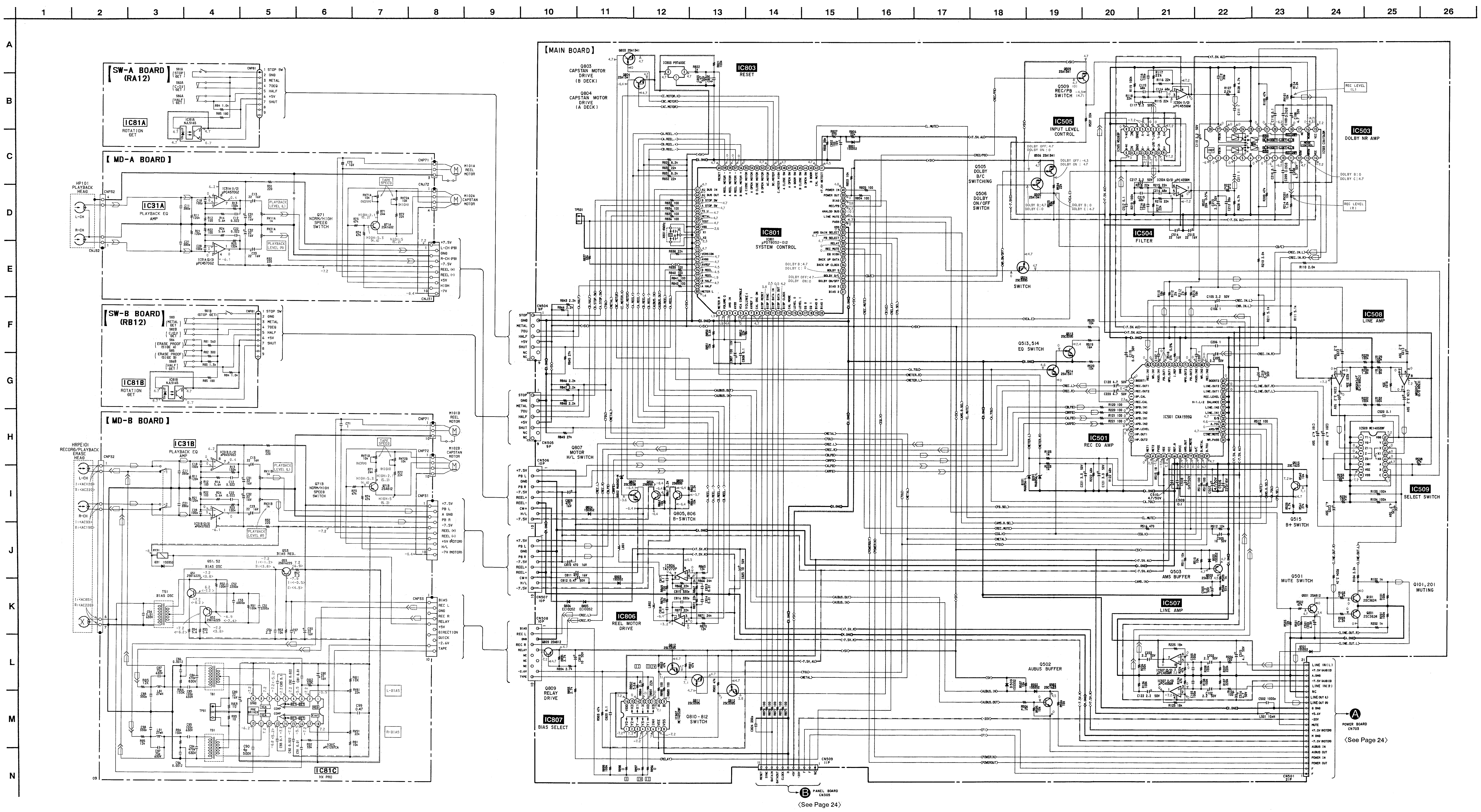

BOOST2
LINE OUT2
LINE OUT1
REC VOL
REC BAL
LINE IN2
LINE IN1
DECK A/B
A EQ
AMS/BS
HP PASS
REC IN2
NR IN2
PASS IN2
PB OUT2
VOL OUT2
GND (VG)
IREF
VOL OUT1
PB OUT1
PASS IN1
NR IN1
REC IN1
B EQ
METAL
SPEED
REC MUTE
AMS OUT
DVCC
DGND
VCC
VEE
PVEE
METER2
METER1
REC EQ
REC VOL
MODE CONTROL
PB EQ
NR/PASS
AMS/BS
METER
BIAS
PB HEAD
HEADPHONE AMP
REC CALIBRATION
BOOST1
REC OUT1
REC OUT2
REC CAL
GP CAL
BPB IN1
BPB IN2
APB IN2
APB IN1
AP VOL
HP OUT1
HP OUT2

IC505 M5283P


NC
GND1
−Vcc
OUT1
Vcc
IN1
VCA
Ref.V OSC
CONTROL
+Vcc
IN2
NC
GND2
−Vcc
OUT2
Vcc

6-4. SCHEMATIC DIAGRAM — MAIN SECTION —

• See page 32,33 for IC Pin Functions.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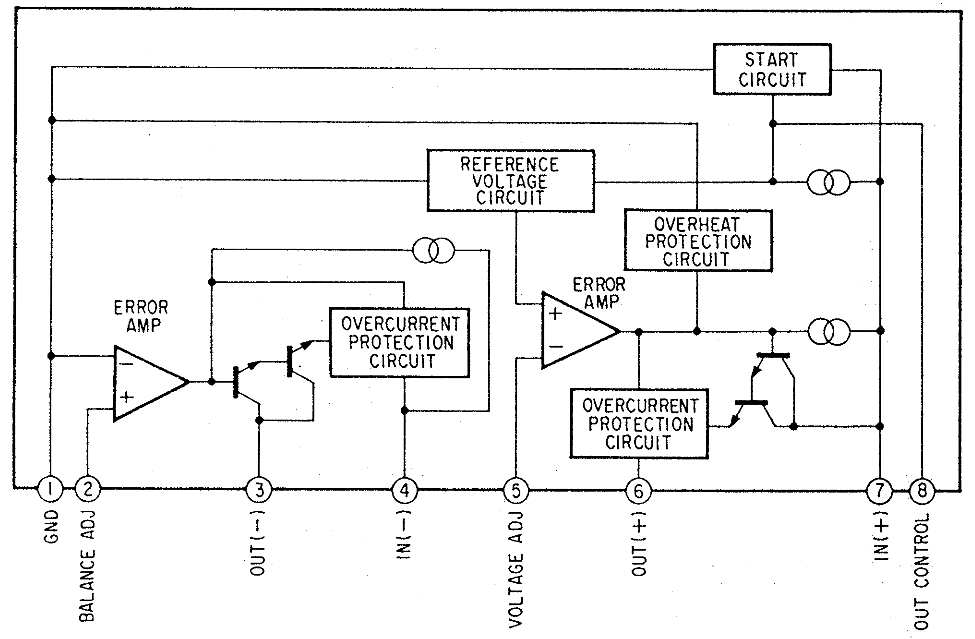
A
B
C
D
E
F
G
H
I
J
K
L
M
N
SW-A BOARD (RA12)
IC81A ROTATION DET
MD-A BOARD
HP101 PLAYBACK HEAD
IC31A PLAYBACK EQ AMP
Q71 NORM/HIGH SPEED SWITCH
M101A REEL MOTOR
M102A CAPSTAN MOTOR
SW-B BOARD (RB12)
IC81B ROTATION DET
MD-B BOARD
HRPE101 RECORD/PLAYBACK ERASE HEAD
IC31B PLAYBACK EQ AMP
Q71B NORM/HIGH SPEED SWITCH
M101B REEL MOTOR
M102B CAPSTAN MOTOR
Q51, 52 BIAS OSC
Q53 BIAS REG.
T51 BIAS OSC
IC81C HX PRO
L-BIAS
R-BIAS
MAIN BOARD
Q803 CAPSTAN MOTOR DRIVE (B DECK)
Q804 CAPSTAN MOTOR DRIVE (A DECK)
IC803 RESET
IC801 μPD78052-012 SYSTEM CONTROL
Q807 MOTOR H/L SWITCH
Q805, 806 B-SWITCH
IC806 REEL MOTOR DRIVE
Q809 RELAY DRIVE
IC807 BIAS SELECT
Q810-812 SWITCH
Q502 AUBUS BUFFER
Q509 REC/PB SWITCH
IC505 INPUT LEVEL CONTROL
Q505 DOLBY B/C SWITCHING
Q506 DOLBY ON/OFF SWITCH
Q508 SWITCH
IC504 FILTER
IC503 DOLBY NR AMP
REC LEVEL (L)
REC LEVEL (R)
Q513, 514 EQ SWITCH
IC501 REC EQ AMP
IC508 LINE AMP
IC509 SELECT SWITCH
Q515 B+ SWITCH
Q503 AMS BUFFER
Q501 MUTE SWITCH
Q101, 201 MUTING
IC507 LINE AMP
CN509 11P
PANEL BOARD CN305
(See Page 24)
POWER BOARD CN703
(See Page 24)
CN501 21P

Note:

- All capacitors are in µF unless otherwise noted. pF:µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.
- ▭ : nonflammable resistor.
- ▭ : panel designation.
- ▬ : B+ Line
- ▪▪▪▪▪ : B− Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : PLAY
  ( ) : REC
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⊳ : PB (DECK A)
  ▷ : PB (DECK B)
  ⊳⊳ : REC (DECK B)

• IC BLOCK DIAGRAMS

IC701 M5230L


START CIRCUIT
REFERENCE VOLTAGE CIRCUIT
OVERHEAT PROTECTION CIRCUIT
ERROR AMP
ERROR AMP
OVERCURRENT PROTECTION CIRCUIT
OVERCURRENT PROTECTION CIRCUIT
1 GND
2 BALANCE ADJ
3 OUT(−)
4 IN(−)
5 VOLTAGE ADJ
6 OUT(+)
7 IN(+)
8 OUT CONTROL

Note:

- All capacitors are in μF unless otherwise noted. pF:μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

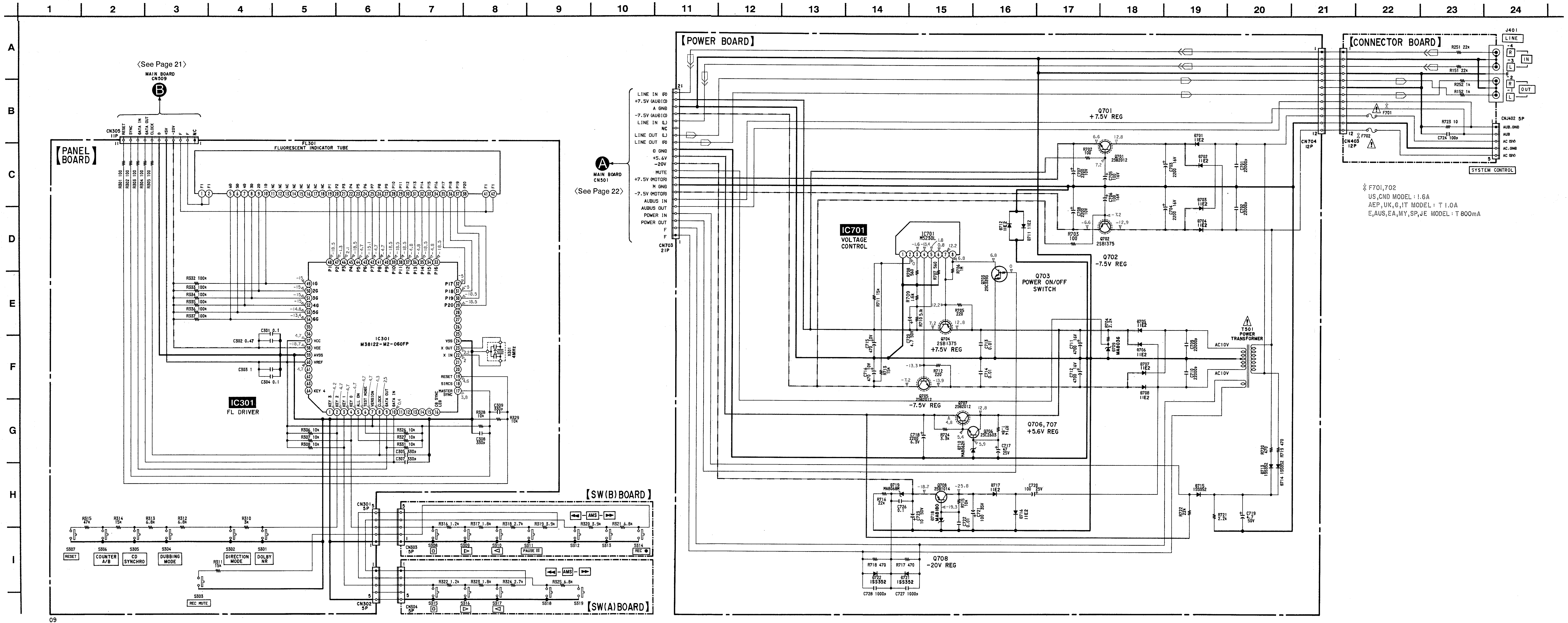
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Note: Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ▬▬ : B+ Line
- ▬ ▬ : B− Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : STOP
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ▷ : PB
  ▷» : REC

- CND : Canadian model.
- G : German model.
- IT : Italian model.
- EA : Saudi Arabia model.
- AUS : Australian model.
- SP : Singapore model.
- MY : Malaysia model.
- JE : Tourist model.

6-5. SCHEMATIC DIAGRAM — PANEL/POWER SECTION —

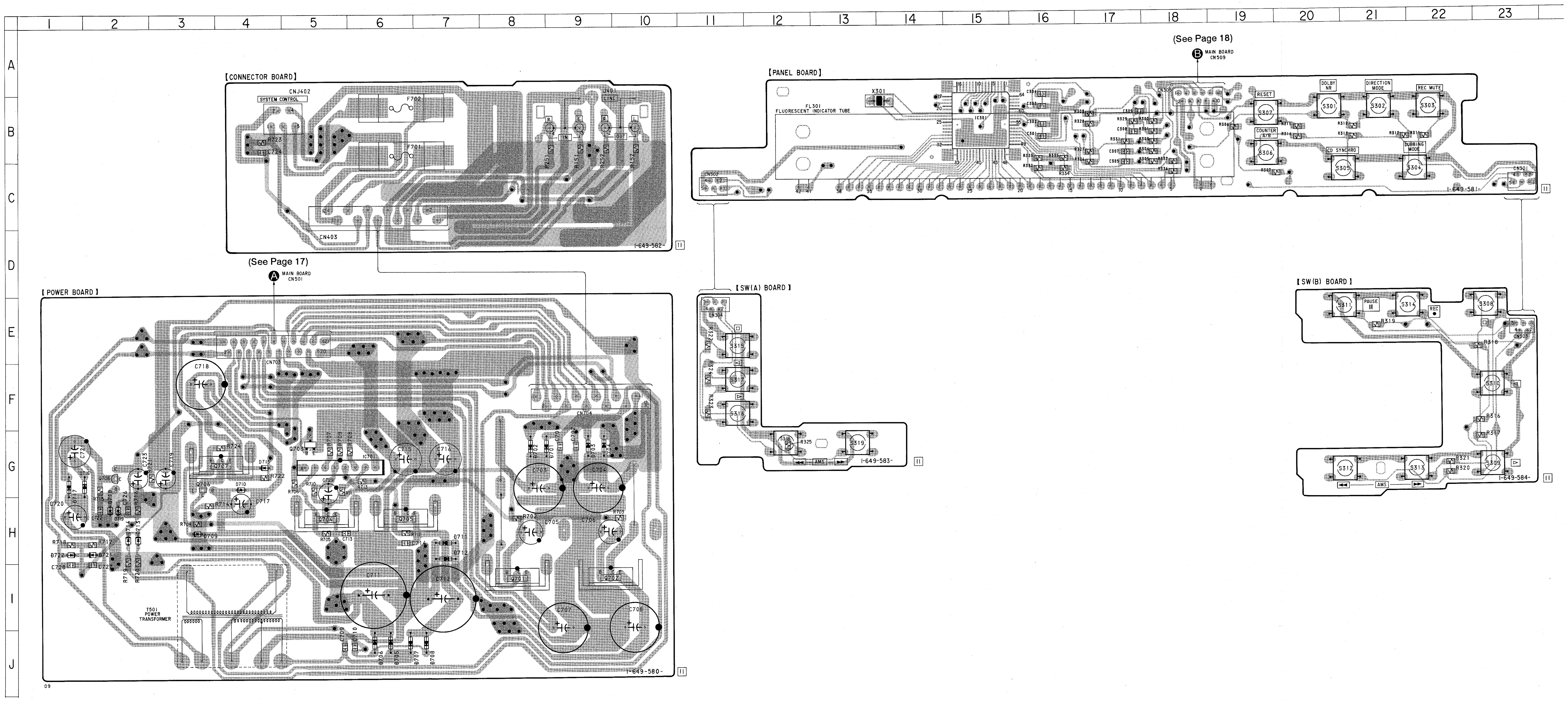
• See page 31 for IC Pin Functions.


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
A B C D E F G H I
〈See Page 21〉
MAIN BOARD CN509
B
CN305 11P
【PANEL BOARD】
FL301 FLUORESCENT INDICATOR TUBE
IC301 M38122-M2-060FP
IC301 FL DRIVER
S307 RESET
S306 COUNTER A/B
S305 CD SYNCHRO
S304 DUBBING MODE
S302 DIRECTION MODE
S301 DOLBY NR
S303 REC MUTE
CN301 5P
CN302 5P
【SW(B) BOARD】
【SW(A) BOARD】
CN303 5P
CN304 5P
AMS
PAUSE
REC
A
MAIN BOARD CN501
〈See Page 22〉
LINE IN (R)
+7.5V (AUDIO)
A GND
−7.5V (AUDIO)
LINE IN (L)
NC
LINE OUT (L)
LINE OUT (R)
B GND
+5.6V
−20V
MUTE
+7.5V (MOTOR)
M GND
−7.5V (MOTOR)
AUBUS IN
AUBUS OUT
POWER IN
POWER OUT
F
F
CN703 21P
【POWER BOARD】
Q701 +7.5V REG
Q702 −7.5V REG
IC701 VOLTAGE CONTROL
Q703 POWER ON/OFF SWITCH
Q704 2SB1375 +7.5V REG
Q705 2SD2012 −7.5V REG
Q706, 707 +5.6V REG
Q708 −20V REG
T501 POWER TRANSFORMER
AC10V
AC10V
CN704 12P
CN403 12P
F701
F702
【CONNECTOR BOARD】
J401 LINE
IN
OUT
R
L
CNJ402 5P
AUB.GND
AUB
AC (9V)
AC.GND
AC (9V)
SYSTEM CONTROL
09

※ F701,702
US,CND MODEL : 1.6A
AEP,UK,G,IT MODEL : T 1.0A
E,AUS,EA,MY,SP,JE MODEL : T 800mA

6-6. PRINTED WIRING BOARD — PANEL/POWER SECTION —

- See page 11 for Circuit Boards Location.
- See page 30 for Semiconductor Lead Layouts.


[CONNECTOR BOARD]
CNJ402
SYSTEM CONTROL
F702
F701
J401
LINE
IN
OUT
CN403
1-649-582-
(See Page 17)
A MAIN BOARD CN501
[POWER BOARD]
CN705
CN704
C718
IC701
C711
C712
C705
C706
C707
C708
T501 POWER TRANSFORMER
1-649-580-
(See Page 18)
B MAIN BOARD CN509
[PANEL BOARD]
FL301 FLUORESCENT INDICATOR TUBE
X301
IC301
RESET
COUNTER /0/0
DOLBY NR
DIRECTION MODE
REC MUTE
CD SYNCHRO
DUBBING MODE
S301
S302
S303
S304
S305
S306
CN502
CN301
1-649-581-
[SW(A) BOARD]
S315
S317
S318
S316
S319
AMS
1-649-583-
[SW(B) BOARD]
S311
PAUSE II
S314
REC
S308
S310
S312
S313
S309
AMS
1-649-584-

- **Semiconductor Location**

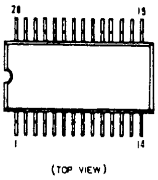
Ref. No.	Location
D701	G-9
D702	G-8
D703	G-9
D704	G-9
D705	J-6
D706	J-6
D707	J-6
D708	J-7
D709	H-3
D710	G-4
D711	H-7
D712	H-7
D713	H-2
D714	H-2
D715	G-4
D716	G-1
D717	G-1
D718	H-2
D719	H-2
D721	H-2
D722	H-1
IC301	B-15
IC701	G-6
Q701	I-8
Q702	I-9
Q703	G-5
Q704	H-5
Q705	H-6
Q706	G-3
Q707	G-4
Q708	G-2

Note:

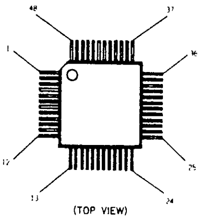
- o—— : parts extracted from the component side.
- ● : Through hole.
- ▩ : Pattern from the side which enable seeing.
- ▨ : Pattern of the rear side.

6-7. SEMICONDUCTOR LEAD LAYOUTS

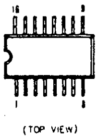
CXA1563M


28
15
1
14
(TOP VIEW)

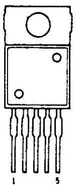
CXA1599Q


48
37
1
36
12
25
13
24
(TOP VIEW)

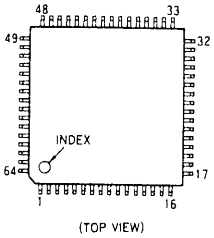
HD14053BFP


16
9
1
8
(TOP VIEW)

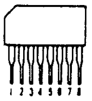
MC14052BF



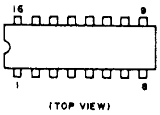
M38122-M2-060FP


48
33
49
32
INDEX
64
17
1
16
(TOP VIEW)

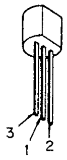
M5230L-A



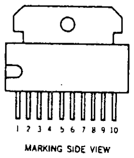
M5283P


16
9
1
8
(TOP VIEW)

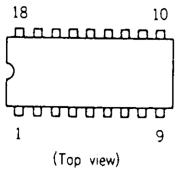
PST600E-T



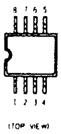
TA7272P


1 2 3 4 5 6 7 8 9 10
MARKING SIDE VIEW

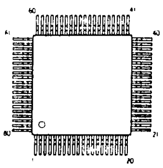
µPC1297CA


18
10
1
9
(Top view)

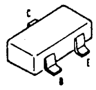
µPC4558G2
µPC4570G2


8 7 6 5
1 2 3 4
(TOP VIEW)

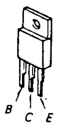
µPC78052-012


60
41
61
40
80
21
1
20

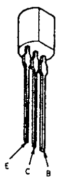
2SA1162-G
2SA1235-F
2SA1602
2SC1623-L5L6
2SC3395
2SC3398
2SD601A-S
DTA144EK



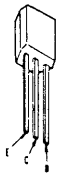
2SB1094-LK
2SD2012



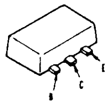
2SB1116-K



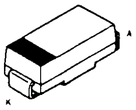
2SC2603-EF



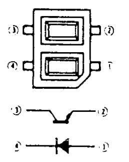
2SD1622-S
2SD999-CLCK



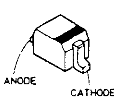
EC10DS2



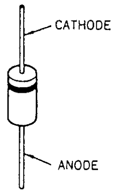
NJL5165K-B(H1)



1SS352
DTZ6.8B
MA8036
MA8056-L
MA8062-H
MA8082-M
MA8180


ANODE
CATHODE

10E2


CATHODE
ANODE

6-8. IC PIN FUNCTIONS

- **IC301 FL DRIVER (M38122-M2-060FP)**

Pin No.	Pin Name	I/O	Function
1	KYE3	I	Not used (Open).
2	KEY2	I	Key input (AD input)
3	KEY1	I	
4	KEY0	I	
5	ALL ON	I	Not used (Fixed at "H").
6	TEST MODE	I	
7	VERSION	I	VERSION discrimination input
8	CLOCK	I	Clock input from IC801
9	DATA OUT	O	Data output to IC801
10	DATA IN	I	Data input from IC801
11 to 16	——	O	Not used (Open).
17	MASTER SYNC	I	SYNC input from IC801.
18	SIRCS	I	Not used (Open).
19	RESET	I	Reset input from IC801
20, 21	——	O	Not used (Open).
22	X IN	–	Clock (4 MHz)
23	X OUT	–	Clock (4 MHz)
24	Vss	–	GND
25 to 28	——	O	Not used (Open).
29 to 48	P20 to P1	O	FL display drive
49 to 54	1G to 6G	O	FL display drive
55, 56	——	–	Not used (Open).
57	Vcc	–	+5V
58	VEE	–	-20V
59	AVss	–	GND
60	VREF	I	+5V
61 to 64	——		Not used (Open).

- **IC801 SYSTEM CONTROL (µPC78052-012)**

Pin No.	Pin Name	I/O	Function
1	METER R	I	VCA control input (Rch)
2	VOLUME 0	I	VCA control input (Electric adjustment mode)
3	AMS IN	I	AMS signal input
4	AVss	–	GND
5	VCA CONTROL	O	VCA control output (Output to IC505)
6	VOLUME 1	O	Electric adjustment mode output (Open: Electric adjustment mode, "L": Others)
7	AVREF1	–	+5V
8	CAL OSC ON	O	Not used (Open).
9	DISP RESET	O	RESET output to IC301
10	DISP SYNC	O	SYNC output to IC301
11	DISP DATA IN	I	DATA input from IC301
12	DISP DATA OUT	O	DATA output to IC301
13	DISP CLOCK	O	CLOCK output to IC301
14 to 22	——	O	Not used (Open).
23	DOLBY ON/OFF	O	ON: "L", OFF: "H".
24	DOLBY B/C	O	C: "L", B: "H".
25 to 27	——	O	Not used (Open).
28	EQ HIGH	O	Normal speed: "L", High speed: "H".
29	REC MUTE	O	"L": REC MUTE.
30	RELAY	O	Relay ON/OFF. ON: "L", OFF: "H".
31	PB SELECT	O	A/B deck select. A deck: "L", B deck: "H".
32	AMS GAIN SELECT	O	BS: "L", AMS: "H".
33	VGS	–	GND
34	PASS	O	"L": PASS MODE.
35	LINE MUTE	O	"L": MUTE.
36	——	O	Not used (Open).
37	REC/PB	O	REC: "L", PB: "H".
38	BIAS	O	"L": BIAS ON.
39	POWER OUT	O	POWER ON: "L", STANDBY: "H".
40	POWER IN	I	POWER ON detection
41	+7.5V DETECT	I	+7.5V detection
42	CAL MUTE	O	MUTE output to IC501
43 to 48	——	I	Not used (Open).
49	C. MOTOR HIGH	O	"H": Capstan motor high speed
50	BC. MOTOR	O	Capstan motor control for B deck. "H": ON.
51	AC. MOTOR	O	Capstan motor control for A deck. "H": ON.
52 to 55	——	O	Not used (open).
56	B REEL MOTOR +	O	B deck reel motor control. "L": FF/REW, FWD, STOP, "H": Trigger.
57	B REEL MOTOR –	O	B deck reel motor control. "H": FF/REW, Open: FWD, "L": STOP, Trigger.
58	A REEL MOTOR +	O	A deck reel motor control. "L": FF/REW, FWD, STOP, "H": Trigger.
59	A REEL MOTOR –	O	A deck reel motor control. "H": FF/REW, Open: FWD, "L": STOP, Trigger.
60	RESET	–	Reset input. "L": Reset.

Pin No.	Pin Name	I/O	Function
61	AU BUS IN	I	Audio bus input
62	AU BUS OUT	O	Audio bus output
63	B STOP SW	I	B deck STOP switch detection
64	A STOP SW	I	A deck STOP switch detection
65	70U	I	70 μsec switch detection
66	METAL	I	METAL switch detection
67	TEST	I	"L": Electric adjustment mode
68	VDD	–	+5V
69	X1	O	Clock
70	X2	I	Clock (4 MHz)
71	——	–	GND
72	——	O	Not used (open).
73	VERSION	I	VERSION discrimination input
74	AVDD	–	+5V
75	AVREF	–	
76	B REEL	I	B deck reel table detection
77	A REEL	I	A deck reel table detection
78	B HALF	I	B deck half switch detection
79	A HALF	I	A deck half switch detection
80	METER L	I	VCA control input (Lch)

SECTION 7
EXPLODED VIEWS

NOTE:

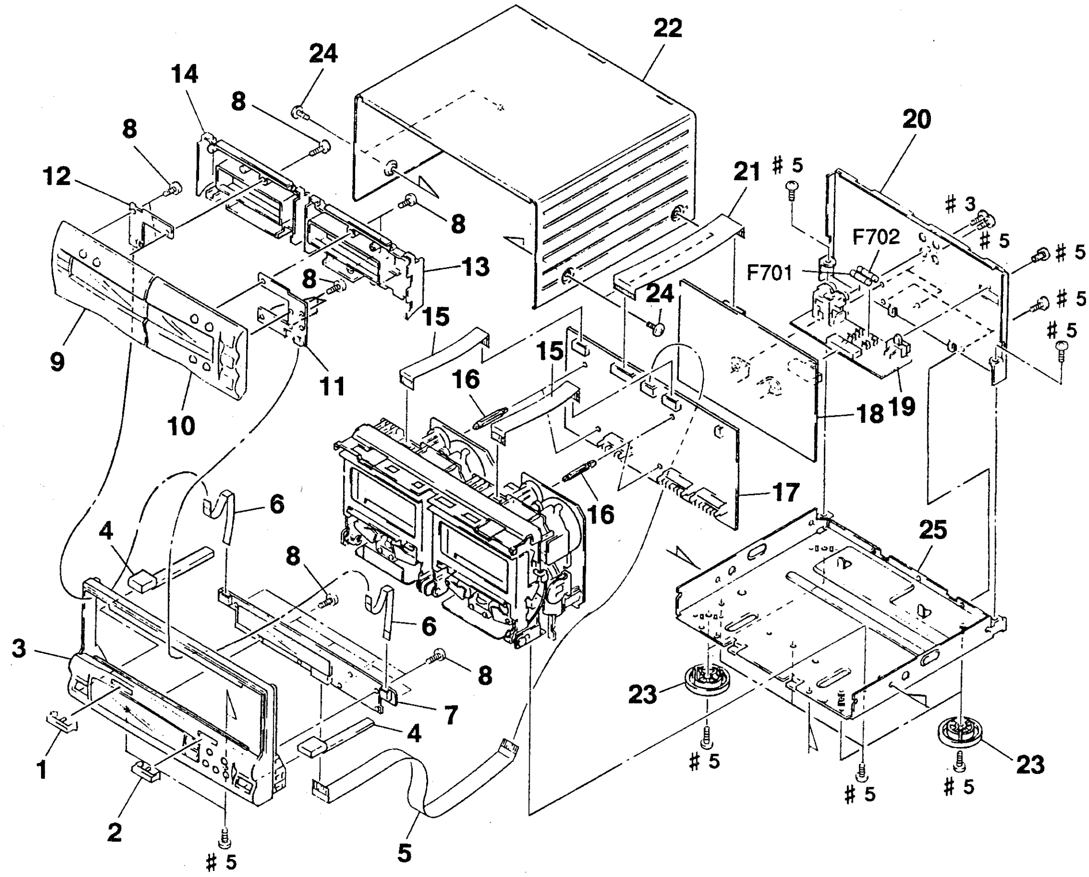
- Items marked " ∗ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts color Cabinet's color

- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- CND : Canadian model
- G : German model
- IT : Italian model
- EA : Saudi Arabia model
- AUS : Australian model
- SP : Singapore model
- MY : Malaysia model
- JE : Tourist model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

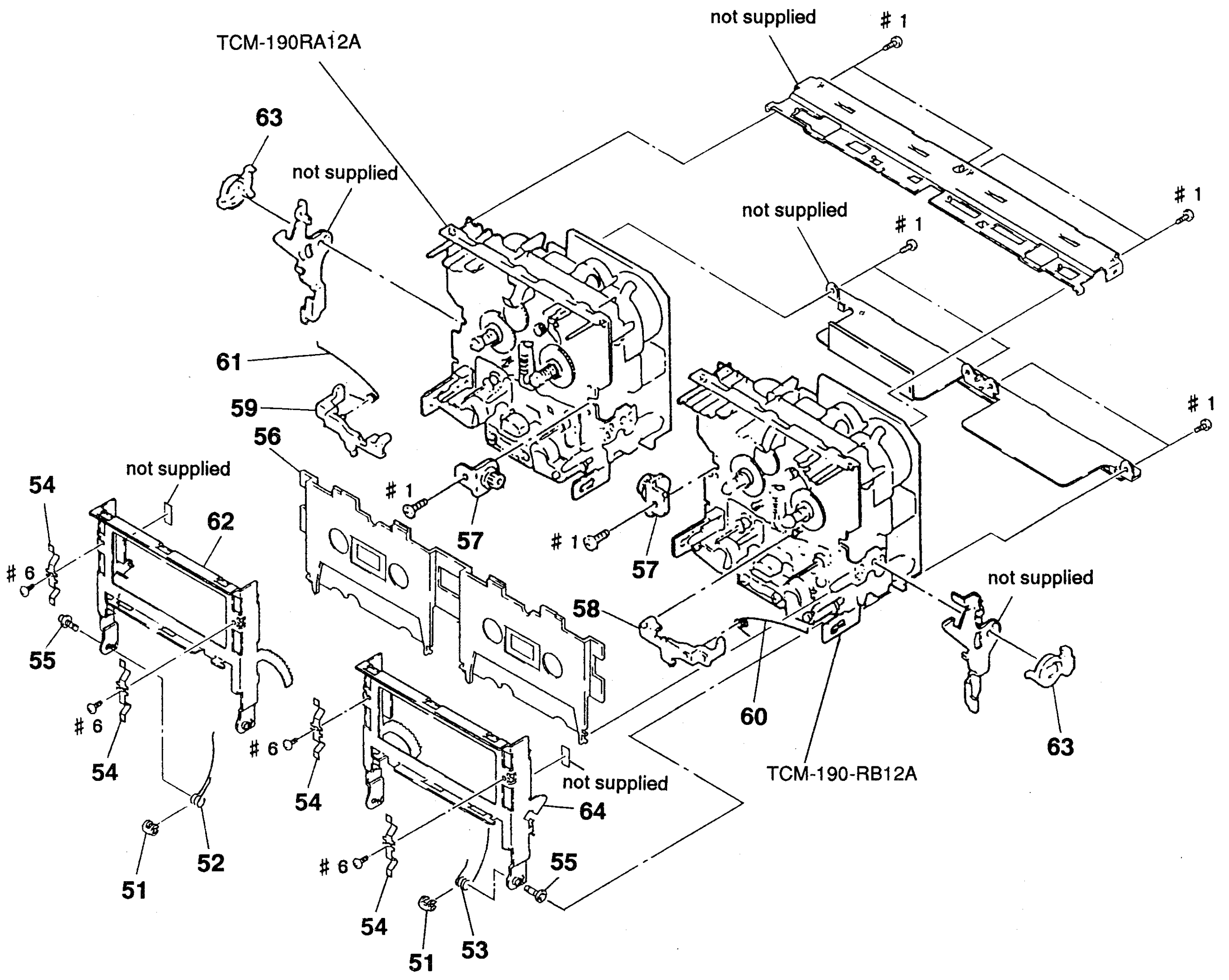
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

7-1. CASE AND CHASSIS BLOCK



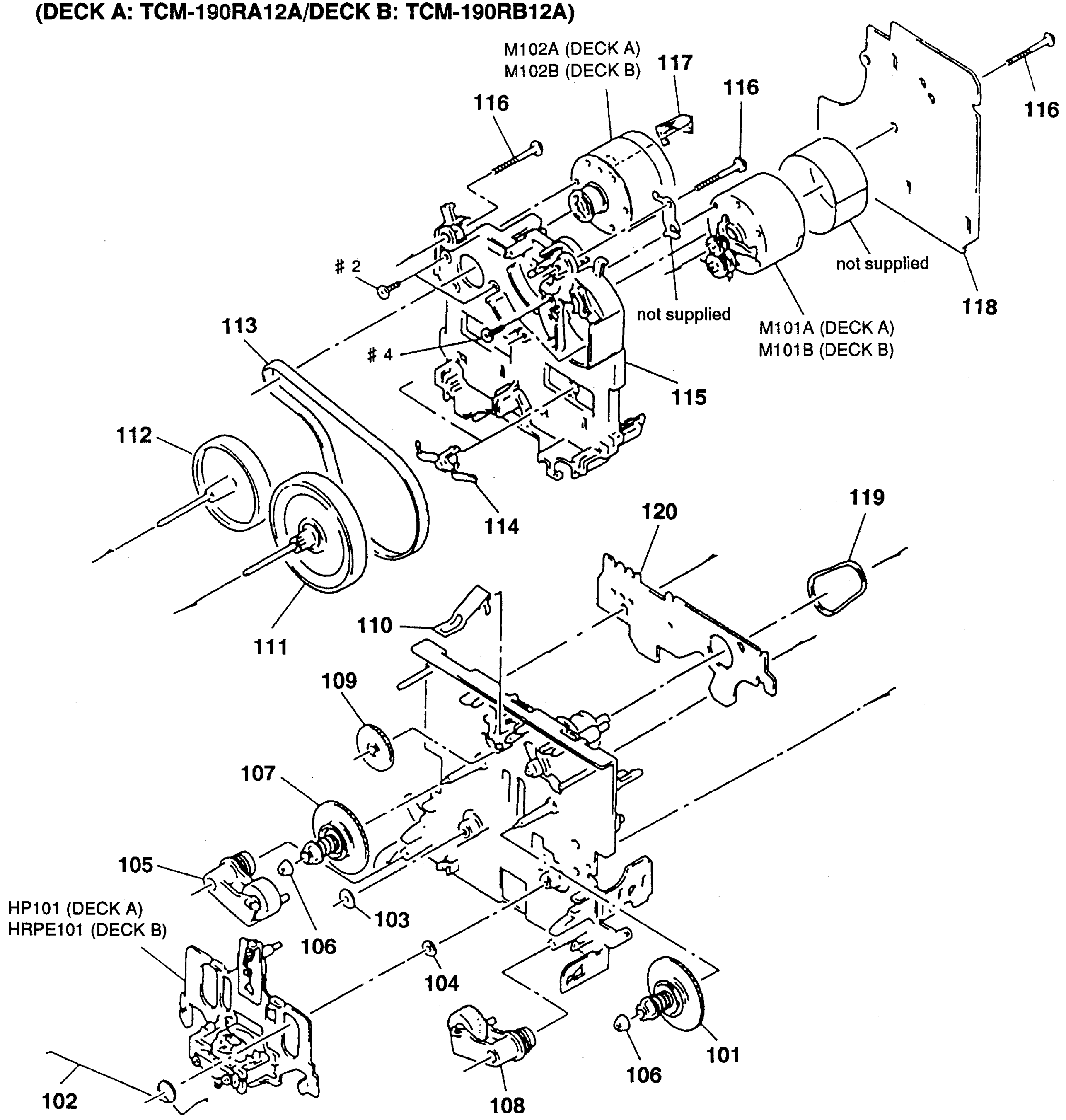
Ref. No.	Part No.	Description	Remark
1	3-905-904-01	COVER (AZIMUTH A)	
2	3-905-905-01	COVER (AZIMUTH B)	
3	X-3367-184-1	PANEL ASSY, FRONT	
4	3-905-906-01	SLIDER	
5	1-751-821-11	WIRE (FLAT TYPE) (11 CORE)	
6	1-751-819-11	WIRE (FLAT TYPE) (5 CORE)	
∗ 7	A-2007-069-A	PANEL BOARD, COMPLETE	
8	4-951-620-01	SCREW (2.6X8), +BVTP	
9	X-3367-185-1	LID (A) ASSY, CASSETTE	
10	X-3367-884-2	LID (B) ASSY, CASSETTE	
∗ 11	1-649-584-11	SW (B) BOARD	
∗ 12	1-649-583-11	SW (A) BOARD	
∗ 13	3-907-991-01	COVER (B), CASSETTE LID	
∗ 14	3-907-990-01	COVER (A), CASSETTE LID	
15	1-590-902-11	WIRE, FLAT TYPE (9 CORE)	
∗ 16	3-682-419-21	HOLDER, P.C.B	
∗ 17	A-2007-149-A	MAIN BOARD, COMPLETE	
∗ 18	A-2007-148-A	POWER BOARD, COMPLETE	
∗ 19	1-649-582-11	CONNECTOR BOARD	
∗ 20	3-905-901-11	PANEL, BACK (AEP, UK, IT, E, AUS, EA, JE, MY, SP)	
∗ 20	3-905-901-21	PANEL, BACK (G)	
∗ 20	3-905-901-31	PANEL, BACK (US, CND)	
21	1-751-820-11	WIRE (FLAT TYPE) (21 CORE)	
22	4-961-519-11	CASE	
23	X-4944-053-1	FOOT (DIA. 42) ASSY	
24	3-363-099-21	SCREW (CASE 3 TP2)	
∗ 25	3-382-488-22	CHASSIS	
⚠F701	1-532-215-00	FUSE, TIME-LAG (T800mA) (E, AUS, EA, MY, SP, JE)	
⚠F701	1-532-078-00	FUSE, TIME-LAG (T1A) (AEP, UK, G, IT)	
⚠F701	1-532-742-11	FUSE, GLASS TUBE (1.6A) (US, CND)	
⚠F702	1-532-215-00	FUSE, TIME-LAG (T800mA) (E, AUS, EA, MY, SP, JE)	
⚠F702	1-532-078-00	FUSE, TIME-LAG (T1A) (AEP, UK, G, IT)	
⚠F702	1-532-742-11	FUSE, GLASS TUBE (1.6A) (US, CND)	

7-2. CASSETTE HOLDER BLOCK


not supplied
# 1
TCM-190RA12A
63
not supplied
# 1
not supplied
# 1
61
59
56
# 1
not supplied
54
62
57
# 1
57
not supplied
# 6
58
55
# 6
60
63
54
# 6
54
not supplied
64
TCM-190-RB12A
52
# 6
55
51
54
51
53

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-367-720-01	RING (W), RETAINING		58	3-354-956-01	LEVER (EJ SAFTY LEVER R)	
52	3-354-959-01	SPRING (LOADING L), TORSION		59	3-354-955-01	LEVER (EJ SAFTY LEVER L)	
53	3-354-960-01	SPRING (LOADING R), TORSION		60	3-354-962-01	SPRING (EJ SAFTY SPRING R)	
54	3-340-137-01	SPRING, CASSETTE RETAINER					
55	3-367-721-01	SHAFT (FULCRUM SHAFT)		61	3-354-961-01	SPRING (EJ SAFTY SPRING L)	
				62	3-367-712-11	HOLDER (L), CASSETTE	
56	3-367-711-01	RETAINER, CASSETTE		63	3-354-957-01	JOINT (LOCK LEVER)	
57	3-354-963-01	DAMPER		64	3-367-713-11	HOLDER (R), CASSETTE	

7-3. MECHANISM DECK BLOCK (1)
(DECK A: TCM-190RA12A/DECK B: TCM-190RB12A)


M102A (DECK A)
M102B (DECK B)
117
116
116
116
# 2
not supplied
118
113
# 4
not supplied
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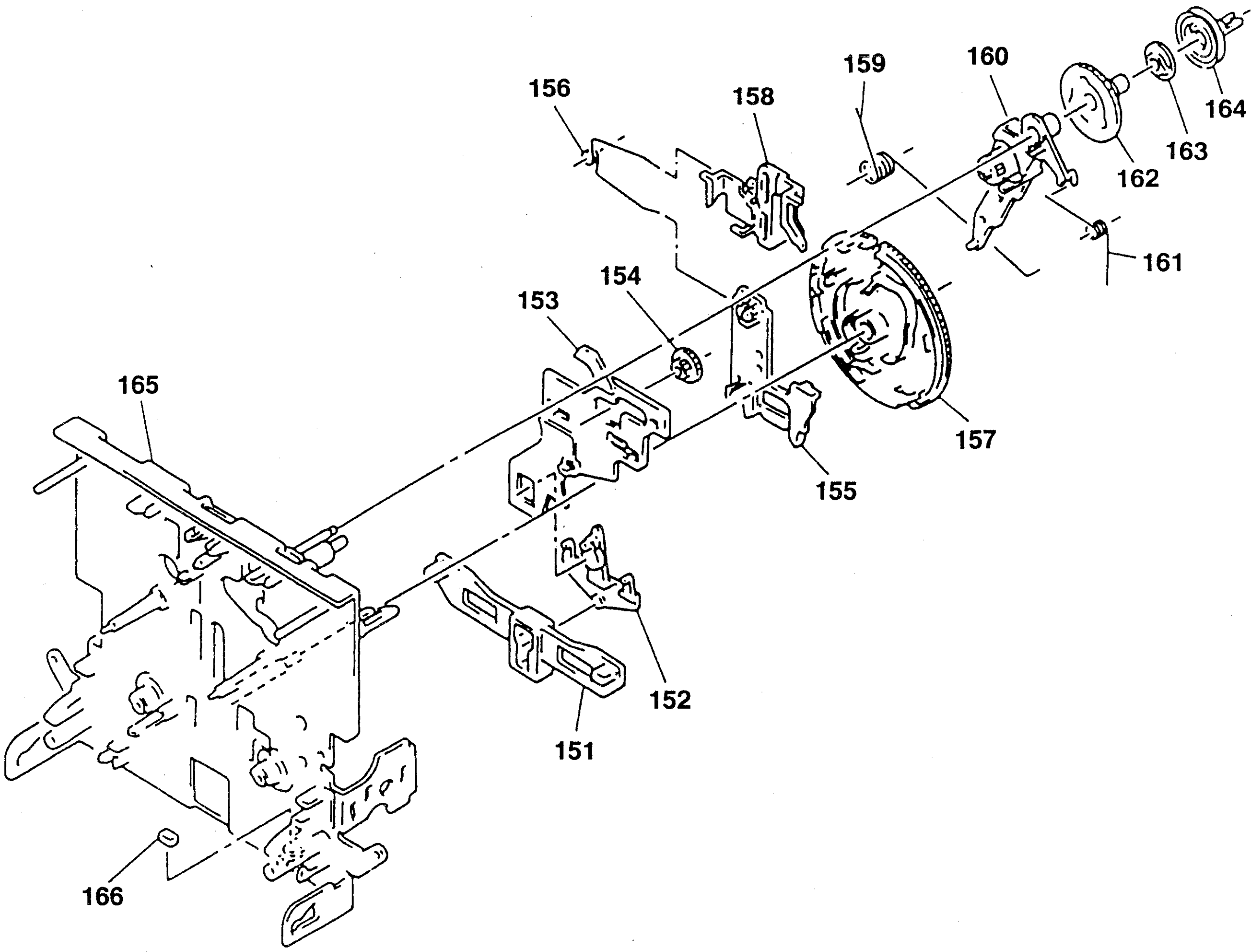
M101B (DECK B)
115
112
114
120
119
110
111
109
107
105
103
HP101 (DECK A)
HRPE101 (DECK B)
106
104
101
106
102
108

Ref. No.	Part No.	Description	Remark
101	X-3359-404-1	TABLE (A) ASSY, REEL	
102	3-359-455-01	SPRING, TORSION	
103	3-356-714-01	WASHER	
104	3-356-713-01	WASHER	
105	X-3359-409-1	LEVER (PINCH LEVER REV) ASSY	
106	3-362-308-01	CAP (REEL)	
107	X-3362-078-1	TABLE ASSY, REEL	
108	X-3359-408-1	LEVER (PINCH LEVER FWD) ASSY	
109	3-359-424-01	GEAR (REV GEAR)	
110	3-359-430-01	SPRING(CASSETTE RETAINER), LEAF	
111	X-3359-406-1	FLYWHEEL (FWD) ASSY	
112	X-3359-410-1	FLYWHEEL (REV) ASSY	
113	3-359-417-01	BELT (FLAT), CAPSTAN	
114	3-575-321-00	RETAINER, THRUST, CAPSTAN	
* 115	3-359-436-01	BASE (THRUST RETAINER), FITTING	
116	3-359-414-01	SCREW (+PTPWH 2X23)	
117	1-638-983-11	MOTOR FLEXIBLE	
* 118	A-2006-399-A	MD-A BOARD, COMPLETE	
* 118	A-2006-401-A	MD-B BOARD, COMPLETE	
119	3-359-466-01	BELT (FR), SQUARE	
* 120	1-634-841-14	SW-A BOARD (RA12A)	
* 120	1-634-841-14	SW-B BOARD (RB12A)	
HP101	A-2003-837-K	DECK ASSY, HEAD (DECK A)	
HRPE101	A-2003-838-L	DECK ASSY, HEAD (DECK B)	
M101A	X-3363-501-1	MOTOR, REEL ASSY (DECK A)	
M101B	X-3363-501-1	MOTOR, REEL ASSY (DECK B)	
M102A	X-3365-377-1	MOTOR, CAPSTAN ASSY (DECK A)	
M102B	X-3365-377-1	MOTOR, CAPSTAN ASSY (DECK B)	

7-4. MECHANISM DECK BLOCK (2)
(DECK A: TCM-190RA12A/DECK B: TCM-190RB12A)



Ref. No.	Part No.	Description	Remark
* 151	3-359-425-01	SLIDER (REVERSE SLIDER)	
152	3-359-426-01	LEVER (REVERSE LEVER)	
* 153	3-359-415-01	SLIDER (TRIGGER SLIDER)	
154	3-359-448-01	GEAR (TRIGGER)	
* 155	3-359-427-01	SLIDER (LEVERSE SLIDER)	
156	3-359-454-01	SPRING, TORSION	
157	3-359-420-01	GEAR (CAM GEAR)	
158	3-359-429-01	SLIDER (BRAKE PLATE)	
159	3-359-456-01	SPRING(TRIGGER SPRING), TORSION	
160	X-3359-405-1	LEVER (FR ARM) ASSY	
161	3-359-453-01	SPRING (FR ARM), TORSION	
162	3-359-419-01	GEAR (FR GEAR)	
163	3-359-421-01	CLUTCH (REEL DISK)	
164	3-359-418-01	PULLEY (FR PULLEY)	
165	X-3363-790-1	CHASSIS ASSY, MECHANICAL	
166	3-359-469-01	SPACER	

SECTION 8
ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts color ↑ Cabinet's color
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA..., uPA...: μPA..., uPB...: μPB..., uPC...: μPC..., uPD...: μPD...
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- CAPACITORS
  uF : μF
- COILS
  uH : μH
- CND : Canadian model
- G : German model
- IT : Italian model
- EA : Saudi Arabia model
- AUS : Australian model
- SP : Singapore model
- MY : Malaysia model
- JE : Tourist model

Ref. No.	Part No.	Description			Remark
*	1-649-582-11	CONNECTOR BOARD			
		***************			
		< CAPACITOR >			
C724	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
		< CONNECTOR >			
CN403	1-764-493-21	CONNECTOR, BOARD TO BOARD 12P			
CNJ402	1-764-016-21	HOUSING, CONNECTOR(PC BOARD) 5P			(SYSTEM CONTROL)
		< FUSE >			
⚠F701	1-532-078-00	FUSE, TIME-LAG (T800mA)			(E, AUS, EA, MY, SP, JE)
⚠F701	1-532-259-00	FUSE, TIME-LAG (T1A) (AEP, UK, G, IT)			
⚠F701	1-532-742-11	FUSE, GLASS TUBE (1.6A) (US, CND)			
⚠F702	1-532-078-00	FUSE, TIME-LAG (T800mA)			(E, AUS, EA, MY, SP, JE)
⚠F702	1-532-259-00	FUSE, TIME-LAG (T1A) (AEP, UK, G, IT)			
⚠F702	1-532-742-11	FUSE, GLASS TUBE (1.6A) (US, CND)			
		< JACK >			
J401	1-695-188-31	JACK, PIN 4P (LINE)			
		< RESISTOR >			
R151	1-216-081-00	METAL CHIP	22K	5%	1/10W
R152	1-216-049-00	METAL CHIP	1K	5%	1/10W
R251	1-216-081-00	METAL CHIP	22K	5%	1/10W
R252	1-216-049-00	METAL CHIP	1K	5%	1/10W
R723	1-216-001-00	METAL CHIP	10	5%	1/10W
**					
*	A-2007-149-A	MAIN BOARD, COMPLETE			
		*******************			
		< CAPACITOR >			
C101	1-124-927-11	ELECT	4.7uF	20%	100V
C102	1-124-925-11	ELECT	2.2uF	20%	100V
C103	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C105	1-124-925-11	ELECT	2.2uF	20%	100V
C106	1-164-346-11	CERAMIC CHIP	1uF		16V
C107	1-164-346-11	CERAMIC CHIP	1uF		16V
C108	1-124-927-11	ELECT	4.7uF	20%	100V
C109	1-104-561-11	FILM CHIP	0.068uF	5%	16V
C110	1-104-563-11	FILM CHIP	0.1uF	5%	16V
C111	1-164-346-11	CERAMIC CHIP	1uF		16V
C112	1-163-107-00	CERAMIC CHIP	39PF	5%	50V
C113	1-124-925-11	ELECT	2.2uF	20%	100V
C114	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C115	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C116	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C117	1-124-925-11	ELECT	2.2uF	20%	100V
C119	1-124-902-00	ELECT	0.47uF	20%	50V
C120	1-124-927-11	ELECT	4.7uF	20%	100V
C121	1-126-162-11	ELECT	3.3uF	20%	50V
C122	1-124-925-11	ELECT	2.2uF	20%	100V
C123	1-124-925-11	ELECT	2.2uF	20%	100V
C124	1-124-925-11	ELECT	2.2uF	20%	100V
C125	1-124-927-11	ELECT	4.7uF	20%	100V
C201	1-124-927-11	ELECT	4.7uF	20%	100V
C202	1-124-925-11	ELECT	2.2uF	20%	100V
C203	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C205	1-124-925-11	ELECT	2.2uF	20%	100V
C206	1-164-346-11	CERAMIC CHIP	1uF		16V
C207	1-164-346-11	CERAMIC CHIP	1uF		16V
C208	1-124-927-11	ELECT	4.7uF	20%	100V
C209	1-104-561-11	FILM CHIP	0.068uF	5%	16V
C210	1-104-563-11	FILM CHIP	0.1uF	5%	16V
C211	1-164-346-11	CERAMIC CHIP	1uF		16V
C212	1-163-107-00	CERAMIC CHIP	39PF	5%	50V
C213	1-124-925-11	ELECT	2.2uF	20%	100V
C214	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C215	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C216	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C217	1-124-925-11	ELECT	2.2uF	20%	100V
C219	1-124-902-00	ELECT	0.47uF	20%	50V
C220	1-124-927-11	ELECT	4.7uF	20%	100V
C221	1-126-162-11	ELECT	3.3uF	20%	50V

Ref. No.	Part No.	Description			Remark
C222	1-124-925-11	ELECT	2.2uF	20%	100V
C223	1-124-925-11	ELECT	2.2uF	20%	100V
C224	1-124-925-11	ELECT	2.2uF	20%	100V
C225	1-124-927-11	ELECT	4.7uF	20%	100V
C501	1-124-471-00	ELECT	1000uF	20%	6.3V
C502	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C503	1-124-925-11	ELECT	2.2uF	20%	100V
C505	1-124-907-11	ELECT	10uF	20%	50V
C506	1-124-120-11	ELECT	220uF	20%	25V
C507	1-124-927-11	ELECT	4.7uF	20%	100V
C508	1-124-465-00	ELECT	0.47uF	20%	50V
C509	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C510	1-124-927-11	ELECT	4.7uF	20%	100V
C513	1-124-234-00	ELECT	22uF	20%	16V
C514	1-124-234-00	ELECT	22uF	20%	16V
C515	1-124-927-11	ELECT	4.7uF	20%	100V
C516	1-124-927-11	ELECT	4.7uF	20%	100V
C517	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C520	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C802	1-124-443-00	ELECT	100uF	20%	10V
C803	1-124-902-00	ELECT	0.47uF	20%	50V
C804	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C807	1-124-443-00	ELECT	100uF	20%	10V
C808	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C809	1-126-103-11	ELECT	470uF	20%	16V
C810	1-126-103-11	ELECT	470uF	20%	16V
C811	1-126-103-11	ELECT	470uF	20%	16V
C812	1-124-902-00	ELECT	0.47uF	20%	50V
C813	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C814	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C815	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C816	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C817	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C818	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C819	1-124-907-11	ELECT	10uF	20%	50V
C820	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C824	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C825	1-124-907-11	ELECT	10uF	20%	50V

< CONNECTOR >

Ref. No.	Part No.	Description
* CN501	1-568-864-11	SOCKET, CONNECTOR 21P
CN504	1-750-586-11	CONNECTOR, FFC/FPC 9P
CN505	1-750-586-11	CONNECTOR, FFC/FPC 9P
CN506	1-580-783-11	CONNECTOR, BOARD TO BOARD 10P
CN507	1-580-783-11	CONNECTOR, BOARD TO BOARD 10P
CN508	1-580-783-11	CONNECTOR, BOARD TO BOARD 10P
* CN509	1-580-415-11	SOCKET, CONNECTOR 11P

< DIODE >

Ref. No.	Part No.	Description		Remark
D101	8-719-422-49	DIODE	MA8056-L	
D201	8-719-422-49	DIODE	MA8056-L	
D501	8-719-016-74	DIODE	1SS352	
D502	8-719-016-74	DIODE	1SS352	
D503	8-719-016-74	DIODE	1SS352	
D509	8-719-016-74	DIODE	1SS352	
D801	8-719-016-74	DIODE	1SS352	
D802	8-719-420-14	DIODE	MA8082-M	
D803	8-719-016-74	DIODE	1SS352	
D804	8-719-016-74	DIODE	1SS352	
D805	8-719-210-33	DIODE	EC10DS2	
D806	8-719-210-33	DIODE	EC10DS2	

< IC >

Ref. No.	Part No.	Description		Remark
IC501	8-752-058-57	IC	CXA1599Q	
IC503	8-752-066-36	IC	CXA1563M	
IC504	8-759-100-96	IC	UPC4558G2	
IC505	8-759-635-26	IC	M5283P	
IC507	8-759-100-96	IC	UPC4558G2	
IC508	8-759-100-96	IC	UPC4558G2	
IC509	8-759-300-71	IC	HD14053BFP	
IC801	8-759-254-82	IC	uPD78052-012	
IC803	8-759-165-82	IC	PST600E-T	
IC806	8-759-207-05	IC	TA7272P	
IC807	8-759-009-06	IC	MC14052BF	

< COIL >

Ref. No.	Part No.	Description		Remark
L501	1-410-470-11	INDUCTOR	10uH	
* L801	1-420-872-00	COIL, AIR CORE		
* L802	1-420-872-00	COIL, AIR CORE		

< TRANSISTOR >

Ref. No.	Part No.	Description		Remark
Q101	8-729-422-29	TRANSISTOR	2SD601A-S	
Q201	8-729-422-29	TRANSISTOR	2SD601A-S	
Q501	8-729-216-22	TRANSISTOR	2SA1162-G	
Q502	8-729-120-28	TRANSISTOR	2SC1623-L5L6	
Q503	8-729-216-22	TRANSISTOR	2SA1162-G	
Q504	8-729-805-45	TRANSISTOR	2SC3395	
Q505	8-729-901-06	TRANSISTOR	DTA144EK	
Q506	8-729-901-06	TRANSISTOR	DTA144EK	
Q509	8-729-901-06	TRANSISTOR	DTA144EK	
Q513	8-729-805-45	TRANSISTOR	2SC3395	
Q514	8-729-901-06	TRANSISTOR	DTA144EK	
Q515	8-729-120-28	TRANSISTOR	2SC1623-L5L6	
Q803	8-729-901-06	TRANSISTOR	DTA144EK	
Q804	8-729-901-06	TRANSISTOR	DTA144EK	
Q805	8-729-140-75	TRANSISTOR	2SD999-CLCK	
Q806	8-729-140-75	TRANSISTOR	2SD999-CLCK	
Q807	8-729-805-41	TRANSISTOR	2SC3398	
Q809	8-729-216-22	TRANSISTOR	2SA1162-G	
Q810	8-729-805-45	TRANSISTOR	2SC3395	

MAIN

Ref. No.	Part No.	Description				Remark
Q811	8-729-805-45	TRANSISTOR	2SC3395			
Q812	8-729-805-45	TRANSISTOR	2SC3395			
		< RESISTOR >				
R101	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R102	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R103	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R104	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R106	1-216-025-00	METAL CHIP	100	5%	1/10W	
R107	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R108	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R109	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R110	1-216-056-00	METAL GLAZE	2K	5%	1/10W	
R111	1-216-066-00	METAL CHIP	5.1K	5%	1/10W	
R112	1-216-056-00	METAL GLAZE	2K	5%	1/10W	
R113	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R114	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	
R115	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R116	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R117	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R118	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R119	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R120	1-216-025-00	METAL CHIP	100	5%	1/10W	
R121	1-216-025-00	METAL CHIP	100	5%	1/10W	
R122	1-216-093-00	METAL CHIP	68K	5%	1/10W	
R123	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R124	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R125	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R126	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R127	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R128	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R129	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R130	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	
R131	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R132	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R133	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R134	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R201	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R202	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R203	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R204	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R206	1-216-025-00	METAL CHIP	100	5%	1/10W	
R207	1-216-105-00	METAL CHIP	220K	5%	1/10W	
R208	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R209	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R210	1-216-056-00	METAL GLAZE	2K	5%	1/10W	
R211	1-216-066-00	METAL CHIP	5.1K	5%	1/10W	
R212	1-216-056-00	METAL GLAZE	2K	5%	1/10W	
R213	1-216-079-00	METAL CHIP	18K	5%	1/10W	

Ref. No.	Part No.	Description				Remark
R214	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	
R215	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R216	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R217	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R218	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R219	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R220	1-216-025-00	METAL CHIP	100	5%	1/10W	
R221	1-216-025-00	METAL CHIP	100	5%	1/10W	
R222	1-216-093-00	METAL CHIP	68K	5%	1/10W	
R223	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R224	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R225	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R226	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R227	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R228	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R229	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R230	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	
R231	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R232	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R233	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R234	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R501	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R502	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R503	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R504	1-216-025-00	METAL CHIP	100	5%	1/10W	
R505	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R506	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R507	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R508	1-216-090-00	METAL CHIP	51K	5%	1/10W	
R509	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R510	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R511	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R512	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R513	1-216-025-00	METAL CHIP	100	5%	1/10W	
R514	1-216-025-00	METAL CHIP	100	5%	1/10W	
R515	1-216-007-00	METAL CHIP	18	5%	1/10W	
R516	1-216-041-00	METAL CHIP	470	5%	1/10W	
R517	1-216-025-00	METAL CHIP	100	5%	1/10W	
R518	1-216-685-11	METAL CHIP	27K	0.5%	1/10W	
R519	1-216-078-00	METAL GLAZE	16K	5%	1/10W	
R520	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R522	1-216-682-11	METAL CHIP	20K	0.5%	1/10W	
R523	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R524	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R535	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R537	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R538	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R539	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R540	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R541	1-216-083-00	METAL CHIP	27K	5%	1/10W	

Ref. No.	Part No.	Description				Remark
R804	1-216-025-00	METAL CHIP	100	5%	1/10W	
R805	1-216-025-00	METAL CHIP	100	5%	1/10W	
R806	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R807	1-216-035-00	METAL CHIP	270	5%	1/10W	
R808	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
R821	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R822	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R829	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	
R830	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R831	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	
R832	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R833	1-216-025-00	METAL CHIP	100	5%	1/10W	
R834	1-216-025-00	METAL CHIP	100	5%	1/10W	
R835	1-216-025-00	METAL CHIP	100	5%	1/10W	
R836	1-216-025-00	METAL CHIP	100	5%	1/10W	
R837	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R838	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R839	1-216-025-00	METAL CHIP	100	5%	1/10W	
R840	1-216-025-00	METAL CHIP	100	5%	1/10W	
R841	1-216-025-00	METAL CHIP	100	5%	1/10W	
R842	1-216-025-00	METAL CHIP	100	5%	1/10W	
R843	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R844	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R845	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R846	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R847	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R848	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R849	1-216-083-00	METAL CHIP	27K	5%	1/10W	
R850	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R851	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R852	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R853	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R861	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R862	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R863	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R864	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R865	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R866	1-216-082-00	METAL GLAZE	24K	5%	1/10W	
R867	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R868	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R869	1-216-025-00	METAL CHIP	100	5%	1/10W	
R870	1-216-075-00	METAL CHIP	12K	5%	1/10W	
R871	1-216-082-00	METAL GLAZE	24K	5%	1/10W	
R872	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R873	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R874	1-216-025-00	METAL CHIP	100	5%	1/10W	
R875	1-216-025-00	METAL CHIP	100	5%	1/10W	
R876	1-216-025-00	METAL CHIP	100	5%	1/10W	
R877	1-216-025-00	METAL CHIP	100	5%	1/10W	
R878	1-216-025-00	METAL CHIP	100	5%	1/10W	

Ref. No.	Part No.	Description				Remark
R879	1-216-025-00	METAL CHIP	100	5%	1/10W	
R884	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R889	1-216-025-00	METAL CHIP	100	5%	1/10W	
R890	1-216-025-00	METAL CHIP	100	5%	1/10W	
R891	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R892	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R893	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R894	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R895	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R896	1-216-295-00	METAL CHIP	0	5%	1/10W	
R897	1-216-295-00	METAL CHIP	0	5%	1/10W	
R898	1-216-295-00	METAL CHIP	0	5%	1/10W	
R899	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R900	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R901	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R902	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R903	1-216-089-91	METAL GLAZE	47K	5%	1/10W	

< VARIABLE RESISTOR >

RV101	1-241-785-11	RES, ADJ, CARBON 10K
RV201	1-241-785-11	RES, ADJ, CARBON 10K

< CONNECTOR >

* TP501	1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P

< VIBRATOR >

X801	1-577-358-21	VIBRATOR, CERAMIC (4MHz)

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* A-2006-399-A MD-A BOARD, COMPLETE

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< CAPACITOR >

C11	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C12	1-136-157-00	FILM	0.022uF	5%	50V
C13	1-124-234-00	ELECT	22uF	20%	16V
C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C21	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C22	1-136-157-00	FILM	0.022uF	5%	50V
C23	1-124-234-00	ELECT	22uF	20%	16V
C28	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C31	1-124-234-00	ELECT	22uF	20%	16V
C32	1-124-234-00	ELECT	22uF	20%	16V
C72	1-124-499-11	ELECT, NONPOLAR	1uF	20%	50V

< CONNECTOR >

* CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD 10P
* CNJ72	1-764-902-11	CONNECTOR, FFC/FPC 4P
* CNP32	1-580-772-11	PIN, CONNECTOR (PC BOARD) 4P

Ref. No.	Part No.	Description	Remark
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P	
		< HEAD >	
HP101	A-2003-837-F	BASE ASSY, HEAD (PLAYBACK)(DECK A)	
		< IC >	
IC31A	8-759-106-02	IC UPC4570G2	
		< JUMPER RESISTOR >	
JW1	1-216-295-00	METAL CHIP 0 5% 1/10W	
JW51	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JW52	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JW53	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JW54	1-216-296-91	METAL GLAZE 0 5% 1/8W	
		< MOTOR >	
M101A	X-3363-501-1	MOTOR ASSY (REEL)(DECK A)	
M102A	X-3365-377-1	MOTOR ASSY (CAPSTAN)(DECK A)	
		< TRANSISTOR >	
Q71A	8-729-602-36	TRANSISTOR 2SA1602	
		< RESISTOR >	
R11	1-216-099-00	METAL CHIP 120K 5% 1/10W	
R12	1-216-025-00	METAL CHIP 100 5% 1/10W	
R13	1-216-100-00	METAL GLAZE 130K 5% 1/10W	
R14	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R21	1-216-099-00	METAL CHIP 120K 5% 1/10W	
R22	1-216-025-00	METAL CHIP 100 5% 1/10W	
R23	1-216-100-00	METAL GLAZE 130K 5% 1/10W	
R24	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R31	1-216-033-00	METAL CHIP 220 5% 1/10W	
R32	1-216-033-00	METAL CHIP 220 5% 1/10W	
R71	1-216-082-00	METAL CHIP 24K 5% 1/10W	
R72	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R73	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R74	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
		< VARIABLE RESISTOR >	
RV11A	1-241-761-11	RES, ADJ, CARBON 1K	
RV21A	1-241-761-11	RES, ADJ, CARBON 1K	
RV71A	1-241-630-11	RES, ADJ, CARBON 10K	
RV72A	1-241-630-11	RES, ADJ, CARBON 10K	

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Ref. No.	Part No.	Description	Remark
*	A-2006-401-A	MD-B BOARD, COMPLETE ********************	
		< CAPACITOR >	
C11	1-163-131-00	CERAMIC CHIP 390PF 5% 50V	
C12	1-136-157-00	FILM 0.022uF 5% 50V	
C13	1-124-234-00	ELECT 22uF 20% 16V	
C18	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C21	1-163-131-00	CERAMIC CHIP 390PF 5% 50V	
C22	1-136-157-00	FILM 0.022uF 5% 50V	
C23	1-124-234-00	ELECT 22uF 20% 16V	
C28	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C31	1-124-234-00	ELECT 22uF 20% 16V	
C32	1-124-234-00	ELECT 22uF 20% 16V	
C33	1-124-234-00	ELECT 22uF 20% 16V	
C51	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 100V	
C52	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 100V	
C53	1-163-019-00	CERAMIC CHIP 0.0068uF 10% 50V	
C54	1-136-601-11	FILM 0.01uF 5% 630V	
C56	1-164-505-11	CERAMIC CHIP 2.2uF 16V	
C57	1-164-346-11	CERAMIC CHIP 1uF 16V	
C71	1-164-346-11	CERAMIC CHIP 1uF 16V	
C80	1-124-234-00	ELECT 22uF 20% 16V	
C81	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C82	1-136-157-00	FILM 0.022uF 5% 50V	
C83	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C84	1-136-478-11	FILM 470PF 5% 630V	
C85	1-136-433-11	FILM 100PF 5% 630V	
C86	1-163-143-00	CERAMIC CHIP 0.0012uF 5% 50V	
C87	1-136-273-91	FILM 75PF 5% 630V	
C88	1-163-003-11	CERAMIC CHIP 330PF 10% 50V	
C89	1-124-234-00	ELECT 22uF 20% 16V	
C90	1-107-584-91	CERAMIC 4PF 0.25PF 500V	
C91	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C92	1-136-157-00	FILM 0.022uF 5% 50V	
C93	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C94	1-136-478-11	FILM 470PF 5% 630V	
C95	1-136-433-11	FILM 100PF 5% 630V	
C96	1-163-143-00	CERAMIC CHIP 0.0012uF 5% 50V	
C97	1-136-273-91	FILM 75PF 5% 630V	
C98	1-163-003-11	CERAMIC CHIP 330PF 10% 50V	
C99	1-164-005-11	CERAMIC CHIP 0.47uF 25V	
		< CONNECTOR >	
* CNP31	1-580-782-11	CONNECTOR, BOARD TO BOARD 10P	
* CNP32	1-580-781-11	PIN, CONNECTOR (PC BOARD) 7P	
* CNP33	1-580-782-11	CONNECTOR, BOARD TO BOARD 10P	
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P	
* CNP72	1-764-902-11	CONNECTOR, FFC/FPC 4P	

Ref.No.	Part No.	Description	Remark
		< DIODE >	
D31	8-719-016-74	DIODE 1SS352	
		< HEAD >	
HRPE101	A-2003-838-F	BASE ASSY, HEAD (REC/PLAYBACK/ERASE) (DECK B)	
		< IC >	
IC31A	8-759-106-02	IC UPC4570G2	
IC81C	8-759-106-56	IC UPC1297CA	
		< COIL >	
L81	1-410-780-11	INDUCTOR 27mH	
L91	1-410-780-11	INDUCTOR 27mH	
		< MOTOR >	
M101B	X-3363-501-1	MOTOR ASSY (REEL)(DECK B)	
M102B	X-3363-377-1	MOTOR ASSY (CAPSTAN)(DECK B)	
		< TRANSISTOR >	
Q51	8-729-808-01	TRANSISTOR 2SD1622-S	
Q52	8-729-808-01	TRANSISTOR 2SD1622-S	
Q53	8-729-808-01	TRANSISTOR 2SD1622-S	
Q71B	8-729-216-22	TRANSISTOR 2SA1162-G	
		< RESISTOR >	
R11	1-216-099-00	METAL CHIP 120K 5% 1/10W	
R12	1-216-025-00	METAL CHIP 100 5% 1/10W	
R13	1-216-100-00	METAL GLAZE 130K 5% 1/10W	
R14	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R21	1-216-099-00	METAL CHIP 120K 5% 1/10W	
R22	1-216-025-00	METAL CHIP 100 5% 1/10W	
R23	1-216-100-00	METAL GLAZE 130K 5% 1/10W	
R24	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R31	1-216-033-00	METAL CHIP 220 5% 1/10W	
R32	1-216-033-00	METAL CHIP 220 5% 1/10W	
R51	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R52	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R53	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R54	1-216-309-00	METAL CHIP 5.6 5% 1/10W	
R55	1-216-309-00	METAL CHIP 5.6 5% 1/10W	
R57	1-216-298-00	METAL CHIP 2.2 5% 1/10W	
R71	1-216-082-00	METAL GLAZE 24K 5% 1/10W	
R72	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R73	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R74	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R81	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R82	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R83	1-216-001-00	METAL CHIP 10 5% 1/10W	
R84	1-216-101-00	METAL CHIP 150K 5% 1/10W	
R85	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R91	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R92	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R93	1-216-001-00	METAL CHIP 10 5% 1/10W	
R94	1-216-101-00	METAL CHIP 150K 5% 1/10W	
R95	1-216-075-00	METAL CHIP 12K 5% 1/10W	
		< VARIABLE RESISTOR >	
RV11B	1-241-761-11	RES, ADJ, CARBON 1K	
RV21B	1-241-761-11	RES, ADJ, CARBON 1K	
RV71B	1-241-630-11	RES, ADJ, CARBON 10K	
RV72B	1-241-630-11	RES, ADJ, CARBON 10K	
RV81	1-241-786-11	RES, ADJ, CARBON 22K	
RV91	1-241-786-11	RES, ADJ, CARBON 22K	
		< RELAY >	
RY31	1-515-913-11	RELAY	
		< TRANSFORMER >	
T51	1-406-417-11	COIL, BIAS OSCILLATION	
T81	1-433-381-11	TRANSFORMER, BIAS OSCILLATOR	
T91	1-433-381-11	TRANSFORMER, BIAS OSCILLATOR	
		< CONNECTOR >	
* TP81	1-568-449-11	HOUSING, CONNECTOR(PC BOARD)3P	

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Ref.No.	Part No.	Description	Remark
*	A-2007-069-A	PANEL BOARD, COMPLETE **********************	
*	3-905-909-01	HOLDER (FL)	
		< CAPACITOR >	
C301	1-165-319-11	CERAMIC CHIP 0.1uF 50V	
C302	1-164-005-11	CERAMIC CHIP 0.47uF 25V	
C303	1-164-346-11	CERAMIC CHIP 1uF 16V	
C304	1-165-319-11	CERAMIC CHIP 0.1uF 50V	
C305	1-163-003-11	CERAMIC CHIP 330PF 10% 50V	
C307	1-163-003-11	CERAMIC CHIP 330PF 10% 50V	
C308	1-163-003-11	CERAMIC CHIP 330PF 10% 50V	
C309	1-163-003-11	CERAMIC CHIP 330PF 10% 50V	
		< CONNECTOR >	
CN301	1-580-472-11	SOCKET, CONNECTOR 5P	
CN302	1-580-472-11	SOCKET, CONNECTOR 5P	
* CN305	1-580-415-11	SOCKET, CONNECTOR 11P	

PANEL POWER

Ref. No.	Part No.	Description	Remark
		< FLUORESCENT INDICATOR >	
FL301	1-517-232-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC301	8-759-198-92	IC M38122-M2-060FP	
		< RESISTOR >	
R301	1-216-025-00	METAL CHIP 100 5% 1/10W	
R302	1-216-025-00	METAL CHIP 100 5% 1/10W	
R303	1-216-025-00	METAL CHIP 100 5% 1/10W	
R304	1-216-025-00	METAL CHIP 100 5% 1/10W	
R305	1-216-025-00	METAL CHIP 100 5% 1/10W	
R306	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R307	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R308	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R310	1-216-060-00	METAL GLAZE 3K 5% 1/10W	
R311	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R312	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R313	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R314	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R315	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R326	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R327	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R328	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R329	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R331	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R332	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R333	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R334	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R335	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R336	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R337	1-216-097-00	METAL CHIP 100K 5% 1/10W	
		< SWITCH >	
S301	1-554-303-21	SWITCH, TACTILE (DOLBY NR)	
S302	1-554-303-21	SWITCH, TACTILE (DIRECTION MODE)	
S303	1-554-303-21	SWITCH, TACTILE (REC MUTE)	
S304	1-554-303-21	SWITCH, TACTILE (DUBBING MODE)	
S305	1-554-303-21	SWITCH, TACTILE (CD SYNCHRO)	
S306	1-554-303-21	SWITCH, TACTILE (COUNTER A/B)	
S307	1-554-303-21	SWITCH, TACTILE (RESET)	
		< VIBRATOR >	
X301	1-577-358-21	VIBRATOR, CERAMIC (4MHz)	

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Ref. No.	Part No.	Description	Remark
*	A-2007-148-A	POWER BOARD, COMPLETE *********************	
*	1-533-213-31	HOLDER, FUSE	
*	3-309-144-21	HEAT SINK	
*	4-880-403-11	HEAT SINK	
	7-682-547-09	SCREW +BVTT 3X6 (S)	
		< CAPACITOR >	
C701	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C702	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C703	1-126-768-11	ELECT 2200uF 20% 16V	
C704	1-126-768-11	ELECT 2200uF 20% 16V	
C705	1-126-101-11	ELECT 100uF 20% 16V	
C706	1-126-101-11	ELECT 100uF 20% 16V	
C707	1-126-927-11	ELECT 2200uF 20% 10V	
C708	1-126-927-11	ELECT 2200uF 20% 10V	
C709	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C710	1-163-037-11	CERAMIC CHIP 0.022uF 10% 25V	
C711	1-126-937-11	ELECT 4700uF 20% 16V	
C712	1-126-937-11	ELECT 4700uF 20% 16V	
C713	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C714	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C715	1-124-472-11	ELECT 470uF 20% 10V	
C716	1-124-472-11	ELECT 470uF 20% 10V	
C717	1-124-477-11	ELECT 47uF 20% 25V	
C718	1-126-927-11	ELECT 2200uF 20% 6.3V	
C719	1-124-927-11	ELECT 4.7uF 20% 100V	
C720	1-124-478-11	ELECT 100uF 20% 25V	
C721	1-124-122-11	ELECT 100uF 20% 50V	
C722	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C723	1-124-907-11	ELECT 10uF 20% 50V	
C726	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C727	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C728	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V	
C729	1-124-927-11	ELECT 4.7uF 20% 100V	
		< CONNECTOR >	
* CN703	1-568-864-11	SOCKET, CONNECTOR 21P	
CN704	1-764-492-21	CONNECTOR, BOARD TO BOARD 12P	
		< DIODE >	
D701	8-719-200-02	DIODE 10E2	
D702	8-719-200-02	DIODE 10E2	
D703	8-719-200-02	DIODE 10E2	
D704	8-719-200-02	DIODE 10E2	
D705	8-719-200-02	DIODE 10E2	
D706	8-719-200-02	DIODE 10E2	
D707	8-719-200-02	DIODE 10E2	
D708	8-719-200-02	DIODE 10E2	
D709	8-719-017-82	DIODE MA8036	

Ref. No.	Part No.	Description	Remark
D710	8-719-422-67	DIODE MA8062-H	
D711	8-719-200-02	DIODE 10E2	
D712	8-719-200-02	DIODE 10E2	
D713	8-719-016-74	DIODE 1SS352	
D714	8-719-016-74	DIODE 1SS352	
D715	8-719-016-74	DIODE 1SS352	
D716	8-719-200-02	DIODE 10E2	
D717	8-719-200-02	DIODE 10E2	
D718	8-719-017-94	DIODE MA8180	
D719	8-719-977-12	DIODE DTZ6.8B	
D721	8-719-016-74	DIODE 1SS352	
D722	8-719-016-74	DIODE 1SS352	
		< IC >	
IC701	8-759-602-66	IC M5230L-A	
		< TRANSISTOR >	
Q701	8-729-209-15	TRANSISTOR 2SD2012	
Q702	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q703	8-729-805-45	TRANSISTOR 2SC3395	
Q704	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q705	8-729-209-15	TRANSISTOR 2SD2012	
Q706	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q707	8-729-209-15	TRANSISTOR 2SD2012	
Q708	8-729-118-01	TRANSISTOR 2SB1116	
		< RESISTOR >	
R702	1-216-025-00	METAL CHIP 100 5% 1/10W	
R703	1-216-025-00	METAL CHIP 100 5% 1/10W	
R704	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R705	1-216-033-00	METAL CHIP 220 5% 1/10W	
R706	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R707	1-216-043-00	METAL CHIP 560 5% 1/10W	
R708	1-216-043-00	METAL CHIP 560 5% 1/10W	
R709	1-216-054-00	METAL GLAZE 1.6K 5% 1/10W	
R709	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R710	1-216-066-00	METAL CHIP 5.1K 5% 1/10W	
R710	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R711	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R712	1-216-033-00	METAL CHIP 220 5% 1/10W	
R713	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R714	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R715	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R716	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R717	1-216-041-00	METAL CHIP 470 5% 1/10W	
R718	1-216-041-00	METAL CHIP 470 5% 1/10W	
R719	1-216-041-00	METAL CHIP 470 5% 1/10W	
R720	1-216-041-00	METAL CHIP 470 5% 1/10W	
R721	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R722	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R724	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
		< TRANSFORMER >	
⚠T501	1-423-812-11	TRANSFORMER, POWER	
**			
*	1-649-583-11	SW (A) BOARD ************	
		< CONNECTOR >	
CN304	1-580-412-11	SOCKET, CONNECTOR 5P	
		< RESISTOR >	
R322	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R323	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R324	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R325	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
		< SWITCH >	
S315	1-554-303-21	SWITCH, TACTILE (□)	
S316	1-554-303-21	SWITCH, TACTILE (▷)	
S317	1-554-303-21	SWITCH, TACTILE (◁)	
S318	1-554-303-21	SWITCH, TACTILE (AMS ◀◀)	
S319	1-554-303-21	SWITCH, TACTILE (AMS ▶▶)	
**			
*	1-649-584-11	SW (B) BOARD ************	
		< CONNECTOR >	
CN303	1-580-412-11	SOCKET, CONNECTOR 5P	
		< RESISTOR >	
R316	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R317	1-216-055-00	METAL CHIP 1.8K 5% 1/10W	
R318	1-216-059-00	METAL CHIP 2.7K 5% 1/10W	
R319	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R320	1-216-063-00	METAL CHIP 3.9K 5% 1/10W	
R321	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
		< SWITCH >	
S308	1-554-303-21	SWITCH, TACTILE (□)	
S309	1-554-303-21	SWITCH, TACTILE (▷)	
S310	1-554-303-21	SWITCH, TACTILE (◁)	
S311	1-554-303-21	SWITCH, TACTILE (PAUSE ❚❚)	
S312	1-554-303-21	SWITCH, TACTILE (AMS ◀◀)	
S313	1-554-303-21	SWITCH, TACTILE (AMS ▶▶)	
S314	1-554-303-21	SWITCH, TACTILE (REC ●)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

SW-A SW-B

Ref.No.	Part No.	Description	Remark
**			
*	1-634-841-14	SW-A BOARD **********	
		< CONNECTOR >	
* CNP81	1-568-852-11	SOCKET, CONNECTOR 9P	
		< IC >	
IC81A	8-749-924-10	IC PHONT REFLECTOR NJL5165K-B(H1)	
		< RESISTOR >	
R84	1-249-417-11	CARBON 1K 5% 1/4W F	
R85	1-249-408-11	CARBON 180 5% 1/4W F	
		< SWITCH >	
S81A	1-571-958-11	SWITCH, PUSH (1 KEY)(STOP DET)	
S82A	1-571-281-21	SWITCH, LEAF (CrO2 DET)	
S86A	1-571-281-21	SWITCH, LEAF (HALF DET)	
**			
*	1-634-841-14	SW-B BOARD **********	
		< CONNECTOR >	
* CNP81	1-568-852-11	SOCKET, CONNECTOR 9P	
		< IC >	
IC81B	8-749-924-10	IC PHONT REFLECTOR NJL5165K-B(H1)	
		< RESISTOR >	
R81	1-249-414-11	CARBON 560 5% 1/4W F	
R82	1-247-818-11	CARBON 300 5% 1/4W	
R83	1-247-834-11	CARBON 1.3K 5% 1/4W	
R84	1-249-417-11	CARBON 1K 5% 1/4W F	
R85	1-249-408-11	CARBON 180 5% 1/4W F	
		< SWITCH >	
S81B	1-571-958-11	SWITCH, PUSH (1 KEY)(STOP DET)	
S82B	1-571-281-21	SWITCH, LEAF (CrO2 DET)	
S83	1-571-281-21	SWITCH, LEAF (METAL DET)	
S84	1-571-281-21	SWITCH, LEAF (ERASE PROOF, SIDE A)	
S85	1-571-281-21	SWITCH, LEAF (ERASE PROOF, SIDE B)	
S86B	1-571-281-21	SWITCH, LEAF (HALF DET)	
**			

Ref.No.	Part No.	Description	Remark
		MISCELLANEOUS *************	
5	1-751-821-11	WIRE (FLAT TYPE) (11 CORE)	
6	1-751-819-11	WIRE (FLAT TYPE) (5 CORE)	
15	1-590-902-11	WIRE, FLAT TYPE (9 CORE)	
21	1-751-820-11	WIRE (FLAT TYPE) (21 CORE)	
117	1-638-983-11	MOTOR FLEXIBLE	
⚠F701	1-532-215-00	FUSE, TIME-LAG (T800mA) (E, AUS, EA, MY, SP, JE)	
⚠F701	1-532-078-00	FUSE, TIME-LAG (T1A)(AEP, UK, G, IT)	
⚠F701	1-532-742-11	FUSE, GLASS TUBE (1.6A)(US, CND)	
⚠F702	1-532-215-00	FUSE, TIME-LAG (T800mA) (E, AUS, EA, MY, SP, JE)	
⚠F702	1-532-078-00	FUSE, TIME-LAG (T1A)(AEP, UK, G, IT)	
⚠F702	1-532-742-11	FUSE, GLASS TUBE (1.6A)(US, CND)	
HP101	A-2003-837-K	DECK ASSY, HEAD (DECK A)	
HRPE101	A-2003-838-L	DECK ASSY, HEAD (DECK B)	
M101A	X-3363-501-1	MOTOR, REEL ASSY (DECK A)	
M101B	X-3363-501-1	MOTOR, REEL ASSY (DECK B)	
M102A	X-3365-377-1	MOTOR, CAPSTAN ASSY (DECK A)	
M102B	X-3365-377-1	MOTOR, CAPSTAN ASSY (DECK B)	
**			

****

HARDWARE LIST

****

#1	7-621-770-67	SCREW +PTT 2.6X6 (S)
#2	7-621-775-00	SCREW +B 2.6X3
#3	7-621-849-00	SCREW (BV/RING)
#4	7-627-556-08	SCREW +P 2.6X2.8
#5	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#6	7-685-780-01	SCREW +PTT 2X3 (S)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Sony Corporation
Audio Group

English
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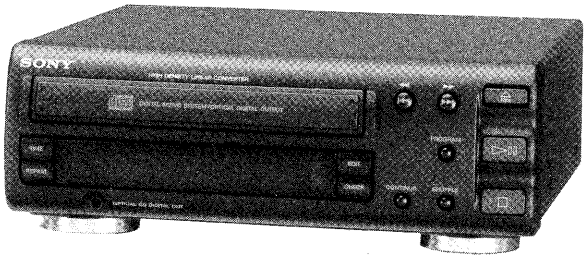
Published by Audio Sector Quality Assurance Dept.

CDP-H7900

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model
Tourist Model



CDP-H7900 is the COMPACT DISC
PLAYER section in MHC-7900/ P100X

Model Name Using Similer Mechanism	NEW
CD Mechanism Type	CDM14M-5BD10
Base Unit Type	BU-5BD10B
Optical Pick-up Type	KSS-240A

SPECIFICATIONS

System	Compact disc digital audio system
Laser	Semiconductor laser
Wavelength	780 – 790 nm
Frequence response	2 Hz – 20 kHz (±0.5 dB)
Signal-to-noise ratio	More than 115 dB
Dynamic range	More than 100 dB
Harmonic distortion	Less than 0.003%
Channel separation	More than 110 dB

Outputs
  LINE OUT (phono jacks):
    Output level 2 V
    (at 50 kilohms)
    Load impedance over
    10 kilohms
  DIGITAL OPTICAL OUT
  (Square optical connector jack, rear panel):
    wave length 660 nm
    output level –18 dBm
  OPTICAL CD DIGITAL OUT
  (Optical mini jack, front panel):
    wave length 660 nm
    output level –18 dBm
Dimensions
  Approx. 225 x 85 x 230 mm (w/h/d)
  (8 7/8 x 3 3/8 x 9 1/8 inches)
Mass   Approx. 2.0 kg
    (4 lb 6 oz)

COMPACT DISC PLAYER

SONY®

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

CAUTION ; INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL ; USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDS ÆTTELSE FOR STRÅLING.
VARO! ; AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA LASERSÄTEILYLLE.
VARNING ; LASERSTRÅLING NÄR DENNA DEL ÄR OPPNÅD OCH SPÄRREN ÄR URXOPPLAD.
ADVARSEL ; USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN.

This caution label is located inside the unit.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

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SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer: Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

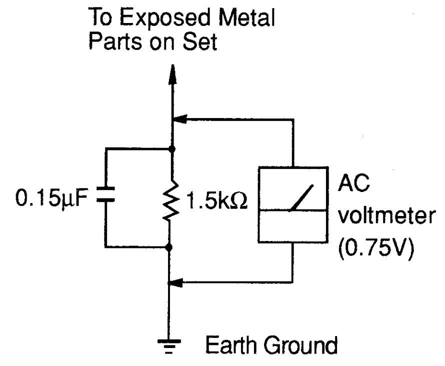


Fig. A. Using an AC voltmeter to check AC leakage.

SECTION 1

SERVICING NOTE

Precautions for Handling the Optical Pick-up

The laser diode inside the optical pick-up is damaged easily by the potential differences resulting from the static electricity produced by our clothes and bodies.
Take careful anti-static electricity precautions when performing repairs. Follow the procedures in the manuals enclosed with the repair parts. Also handle the flexible boards carefully as they break easily.

Precautions for Checking Laser Diode Emission

In this unit, laser light is focused on the disc surface using the subjective lens in the optical pick-up. Therefore, when checking laser diode emissions, leave more than 30 cm or more between the lens and your eye.

Checking the Laser Diode and Focus Search Operations

Perform the "S curve check" in the CD Section and check that the S curve waveform is generated two times.

- **Power Supply Used In Servicing**

  This unit does not have its own power supply. As it works on the power supplied from the amplifier (TA-H7900E) used for this series, connect this amplifier when servicing the unit (conduction repair, etc.).
  Power can also be supplied by connecting the "CDP/TC" connector of the conduction tool (PFJ-1). The following three items are required for this connection.
  - J-2501-063-A
  - 1-696-741-11 CORD, (WITH CONNECTOR)
  - 1-751-541-11 CORD, (WITH CONNECTOR)

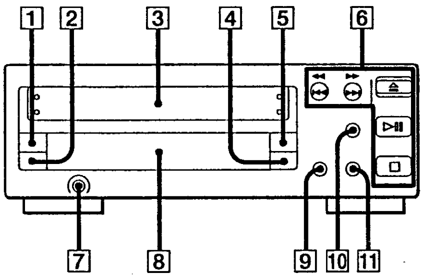
SECTION 2
GENERAL

This section is extracted from instruction manual.

Index to Parts and Controls

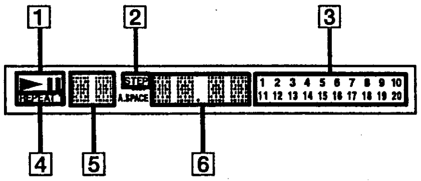
Refer to the pages indicated in parentheses for details on how to use the controls. Controls with an asterisk have indicators on themselves.

CD player



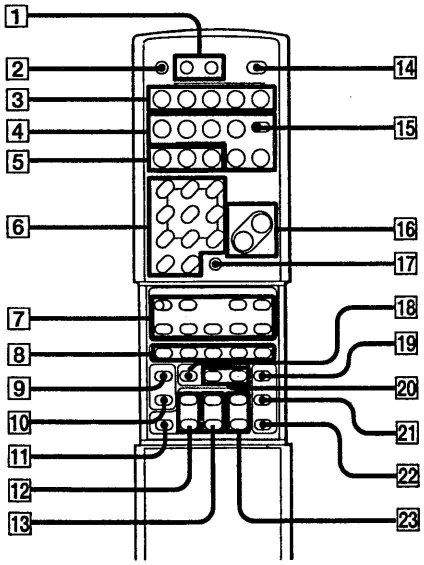
1 TIME button (8)
2 REPEAT button (9)
3 Disc tray (7)
4 CHECK button (15)
5 EDIT button (14, 15)
6 CD player operating buttons
|◀◀ ◀◀/▶▶ ▶▶| (manual search/AMS) (7)
⏏ (open/close of the disc tray) (7, 13)
▷ǁ (play/pause) (7, 14)
□ (stop) (7, 14)
7 OPTICAL CD DIGITAL OUT jack (27)
8 Display window (7)
9 CONTINUE button (8, 15)
10 PROGRAM button (8, 16)
11 SHUFFLE button (8)

CD player



1 Play and pause indicator (7)
2 STEP indication (8)
3 Music calendar (7, 14)
4 REPEAT/REPEAT 1 indication (9)
5 Track number indication (7)
6 Playing time indication (7, 14)

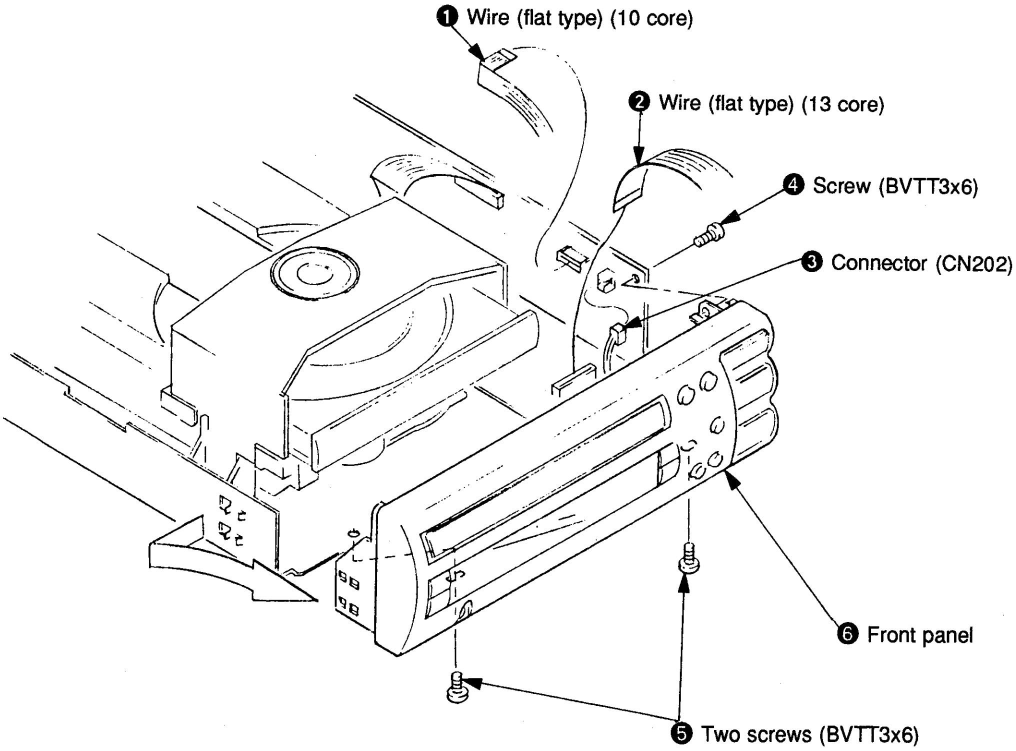
Remote commander



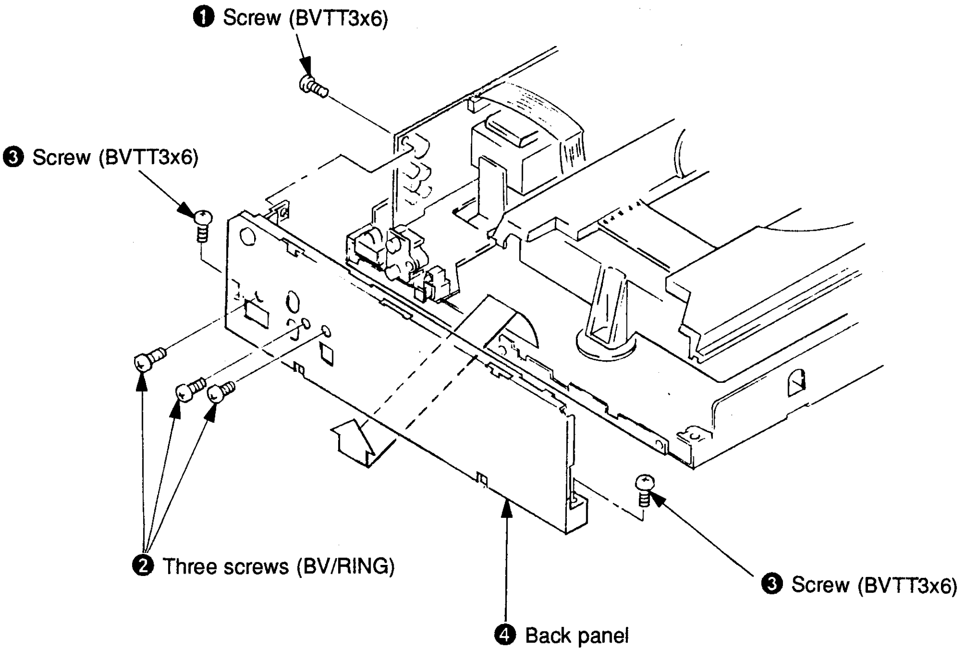
1 TAPE DECK A/B buttons (12)
2 SLEEP button (25)
3 CD/MD operating buttons (7, 16)
4 Cassette deck operating buttons (12)
5 Tuner operating buttons (11)
6 CD/Tuner/LPC numeric buttons (8, 11, 22)
7 VCR operating buttons (28)
8 TV operating buttons (28)
9 AUDIO FUNCTION button (28)
10 VIDEO FUNCTION button (28)
11 TEST TONE button (23)
12 REAR LEVEL +/– buttons (23)
13 CENTER LEVEL +/– buttons (23)
14 SYSTEM POWER switch (7)
15 CD/MD switch (7)
16 VOLUME +/– buttons (7)
17 LPC (Listening point control) button (22)
18 DIRECT button (18)
19 CHECK button (8)
20 MENU +/– button (18)
21 CLEAR button (8)
22 REPEAT button (9)
23 DELAY TIME +/– button (23)

SECTION 3
DISASSEMBLY

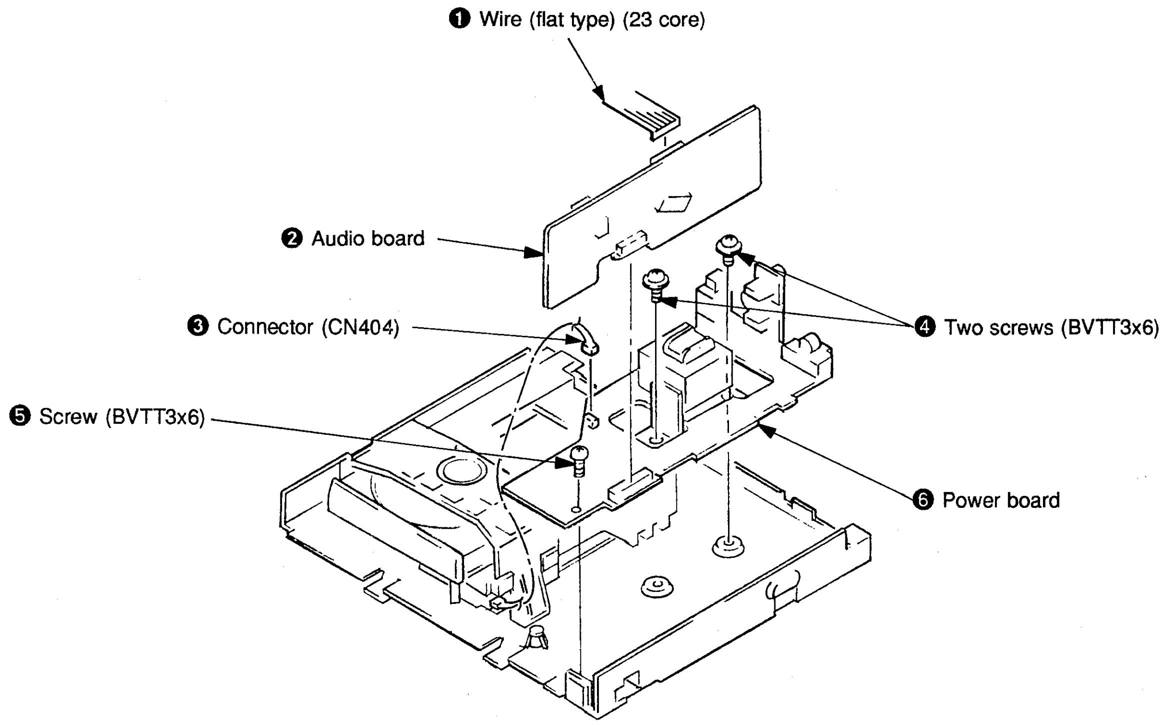
3-1. FRONT PANEL


❶ Wire (flat type) (10 core)
❷ Wire (flat type) (13 core)
❹ Screw (BVTT3x6)
❸ Connector (CN202)
❻ Front panel
❺ Two screws (BVTT3x6)

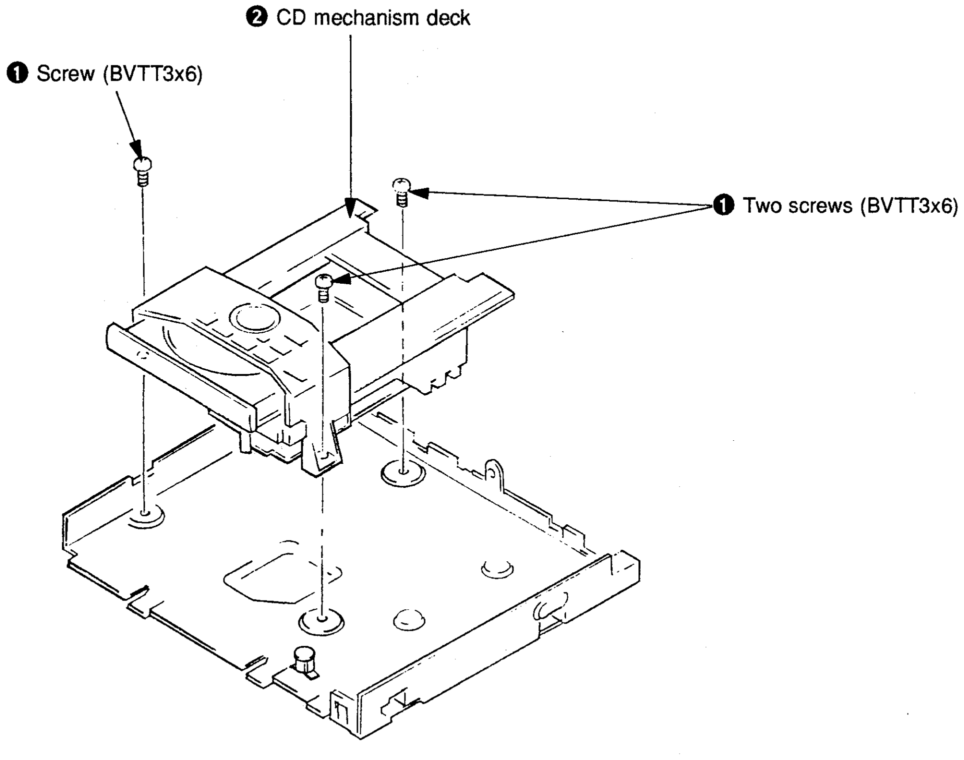
3-2. BACK PANEL


❶ Screw (BVTT3x6)
❸ Screw (BVTT3x6)
❷ Three screws (BV/RING)
❸ Screw (BVTT3x6)
❹ Back panel

3-3. POWER BOARD


❶ Wire (flat type) (23 core)
❷ Audio board
❸ Connector (CN404)
❺ Screw (BVTT3x6)
❹ Two screws (BVTT3x6)
❻ Power board

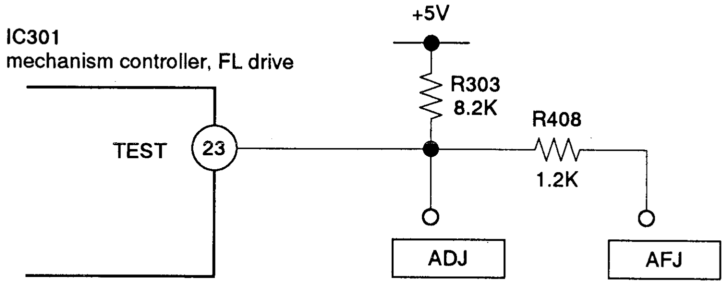
3-4. CD MECHANISM DECK


❷ CD mechanism deck
❶ Screw (BVTT3x6)
❶ Two screws (BVTT3x6)

SECTION 4
TEST MODE

TEST MODE OF CXP82316-040Q MICROPROCESSOR FOR CDP-H7900 CD SECTION

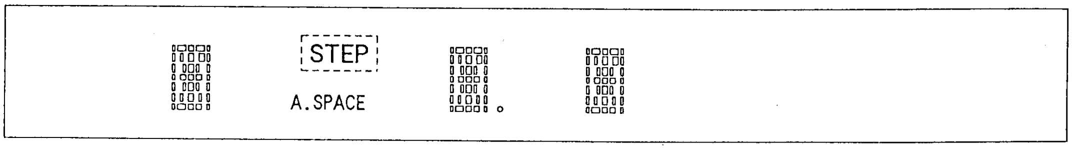
- **Test Pin Circuit**



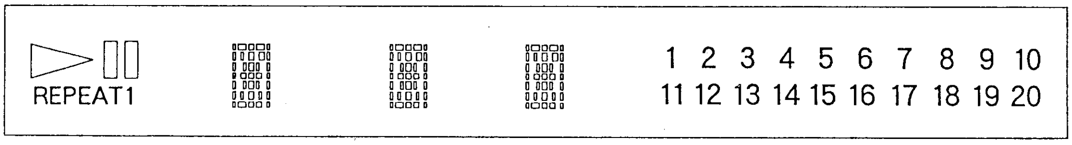
Connect the system cable from the power supply (Jig) or TA-H7900E.

- **Key and Display Test Mode**

1. Disconnect the system connector from the unit (CDP) and connect the TP of the power supply board (AFJ) to the GND.
2. Insert the system connector to the unit (CDP).
3. All FL displays will light up.
4. Check the digits using the ▷▯▯ key.
   While the ▷▯▯ key is pressed:

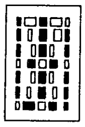
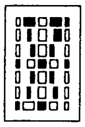


and



The displays will be switched and shown for approximately 0.25 seconds each.

5. Check the segments using the □ key.
   While the □ key is pressed:


and

will be switched and shown for approximately 0.25 seconds each at the minutes and seconds display.

6. Use the ▷ key of the remote commander to display RM50 (PLAY remote control code) and the □ key to display RM56 (STOP remote control code).
7. All FL displays will light up with the ⏏ key.
8. The test is satisfactory if 12 is displayed when any other key is pressed.

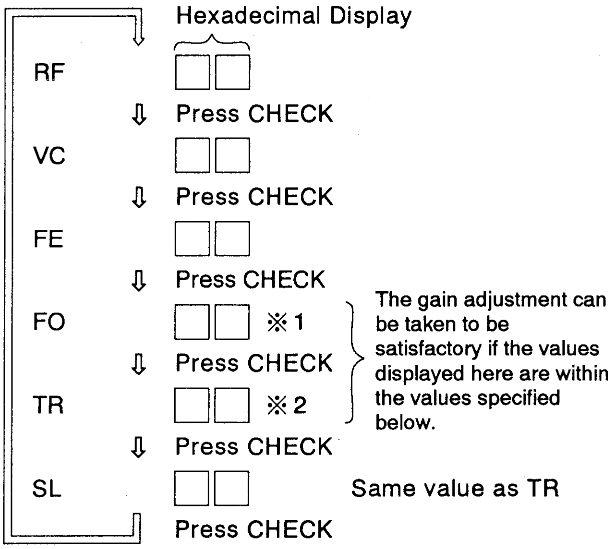
- **Forced Power ON Mode**

Mode for the unit to operate alone. It is operated by supplying AC20V to CN405 (primary side of the power transformer T401.

1. Turned OFF the AC20V power supply and connect the TP (ADJ) to the GND of the power supply board.
2. Turned ON the AC20V power supply. The power will turn on immediately.

- **Display Mode of Digital Servo State**

1. Before turning on the power supply, connect the TP (ADJ) to the GND, load the YEDS-18 test disk (3-702-101-01), and then turned on the power.
2. Each time the CHECK key is pressed, the data will be shown in hexadecimal digits in the order of RF offset, VC offset, FE offset, focus auto gain, tracking auto gain, and sled auto gain.


Hexadecimal Display
RF
Press CHECK
VC
Press CHECK
FE
Press CHECK
FO
※1
Press CHECK
TR
※2
Press CHECK
SL
Press CHECK
The gain adjustment can be taken to be satisfactory if the values displayed here are within the values specified below.
Same value as TR

RF, VC, and FE display only the measurement results and cannot be used to determine if errors have occurred.

※1 FO: 46 to 24 (Hexadecimal digit)
※2 TR: 46 to 19 (Hexadecimal digit)

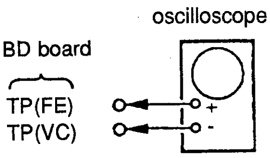
SECTION 5

ELECTRICAL BLOCK CHECKING

Note :

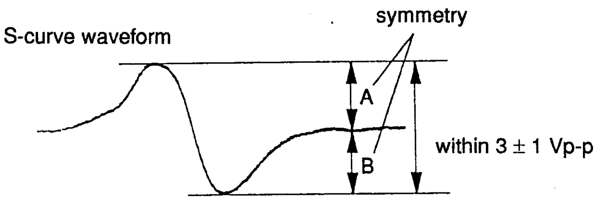
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal lever is low than specified value with the following checks.

S Curve Check


oscilloscope
BD board
TP(FE)
TP(VC)
+
-

Procedure :

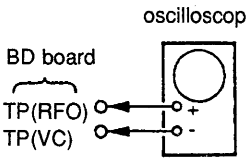
1. Connect oscilloscope to test point TP (FE) on BD board.
2. Connect between test point TP (FEI) and TP (VC) by lead wire.
3. Turned Power switch on.
4. Put disc (YEDS-18) in and turned Power switch on again and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
5. Check the oscilloscpe waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 3±1 Vp-p.


S-curve waveform
symmetry
A
B
within 3 ± 1 Vp-p

6. After check, remove the lead wire connected in step 2.

Note :
- Try to mesure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
- Take sweep time as loge as possible and light up the brightness to obtain best waveform.

RF Level Check

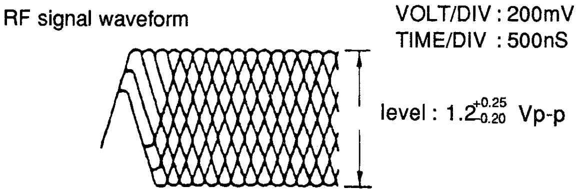

oscilloscope
BD board
TP(RFO)
TP(VC)
+
-

Procedure :

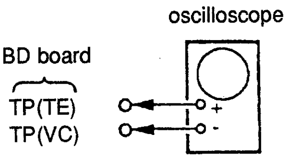
1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note :

Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

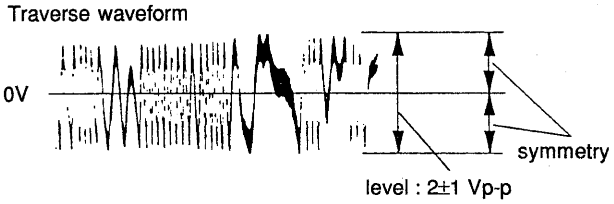

RF signal waveform
VOLT/DIV : 200mV
TIME/DIV : 500nS
level : $1.2^{+0.25}_{-0.20}$ Vp-p

E-F Balance Check


oscilloscope
BD board
TP(TE)
TP(VC)
+
-

Procedure :

1. Connect test point TP (ADJ) to ground and TP(TEI) to TP (VC) with lead wire.
2. Connect oscillosce to test point TP (TE) on BD board.
3. Turned Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

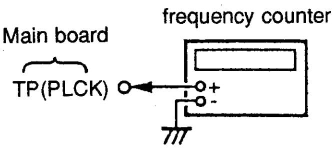

Traverse waveform
0V
symmetry
level : 2±1 Vp-p

6. Remove the lead wire connected in step 1.

RF Free-run Frequency Check

Procedure :

1. Connect frequency counter to test point (PLCK) with lead wire.

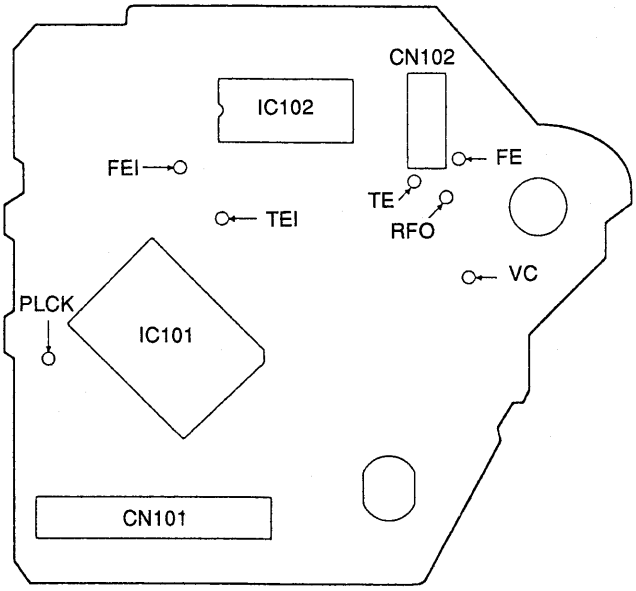

frequency counter
Main board
TP(PLCK)
+
-

2. Turned Power switch on.
3. Confirm that reading on frequency counter is 4.3218MHz.

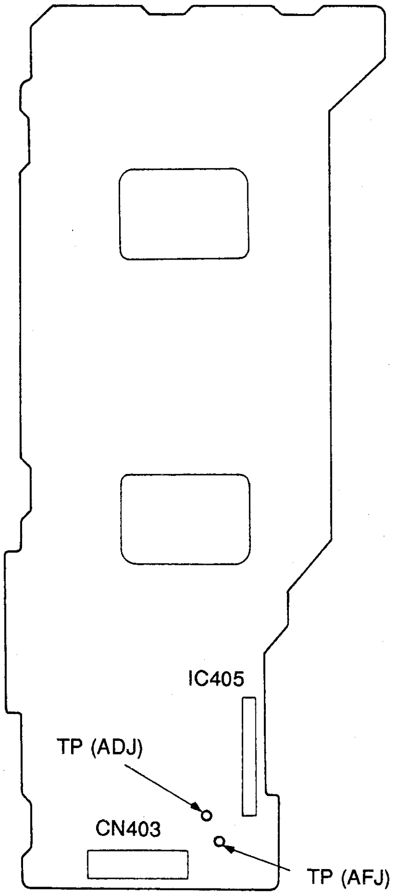
SECTION 6
DIAGRAMS

Adjustment Location :

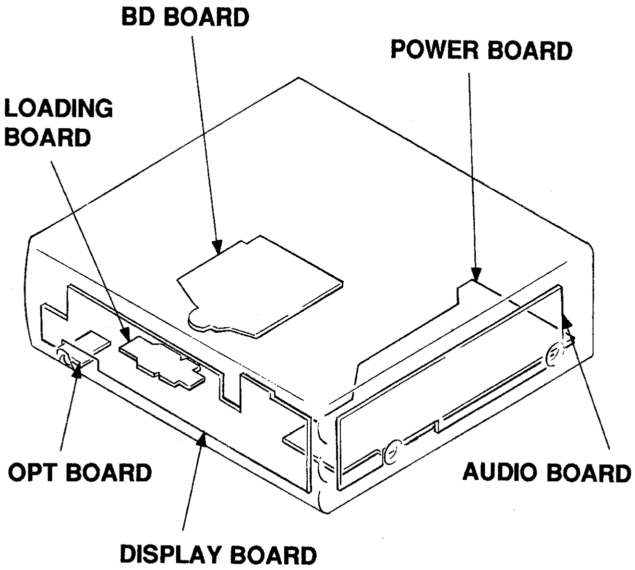
[BD BOARD] — Component Side —


CN102
IC102
FEI
FE
TE
RFO
TEI
VC
PLCK
IC101
CN101

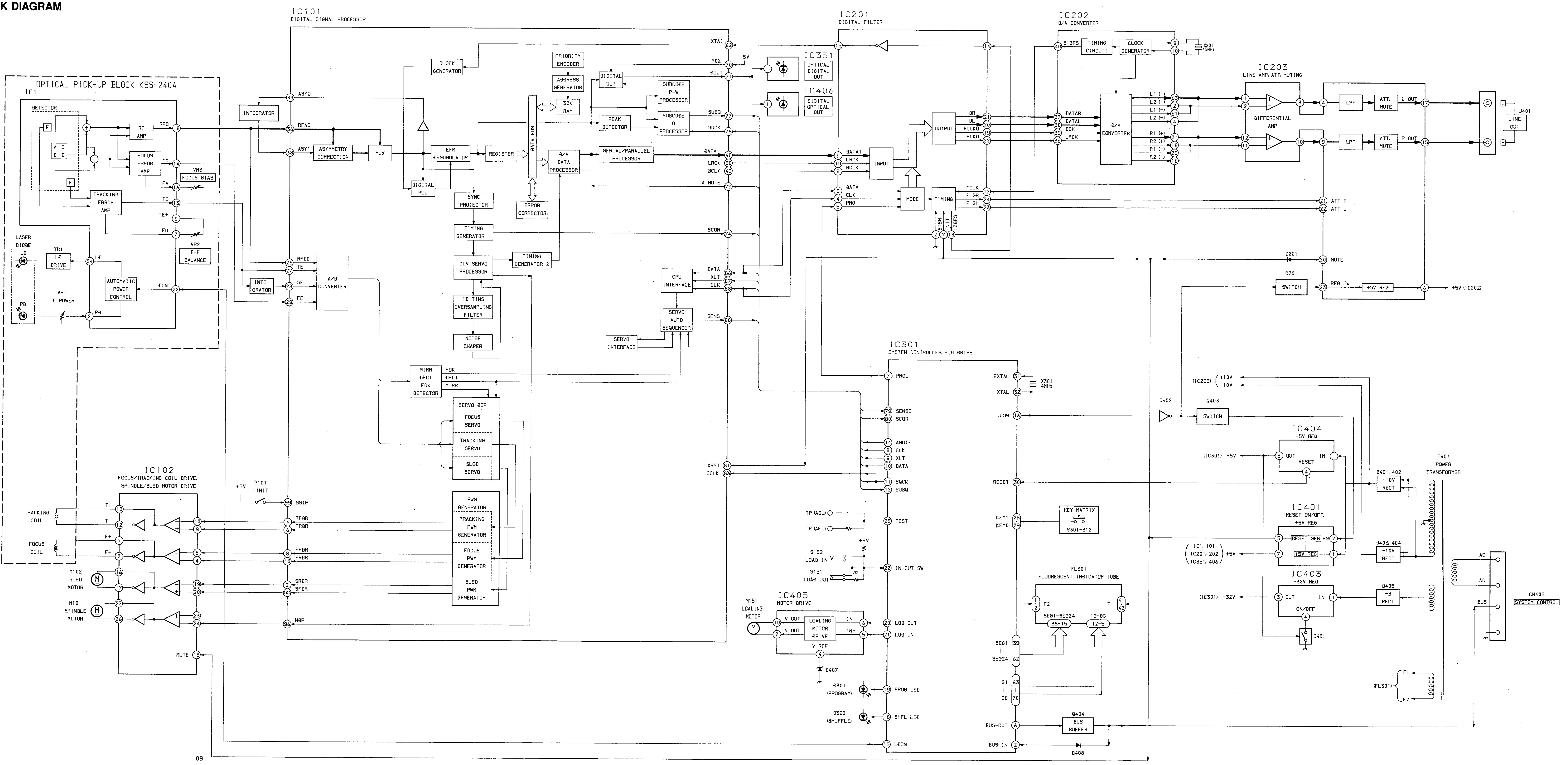
[POWER BOARD] — Component Side —


IC405
TP (ADJ)
CN403
TP (AFJ)

6-1. CIRCUIT BOARDS LOCATION


BD BOARD
POWER BOARD
LOADING BOARD
OPT BOARD
AUDIO BOARD
DISPLAY BOARD

6-2. BLOCK DIAGRAM

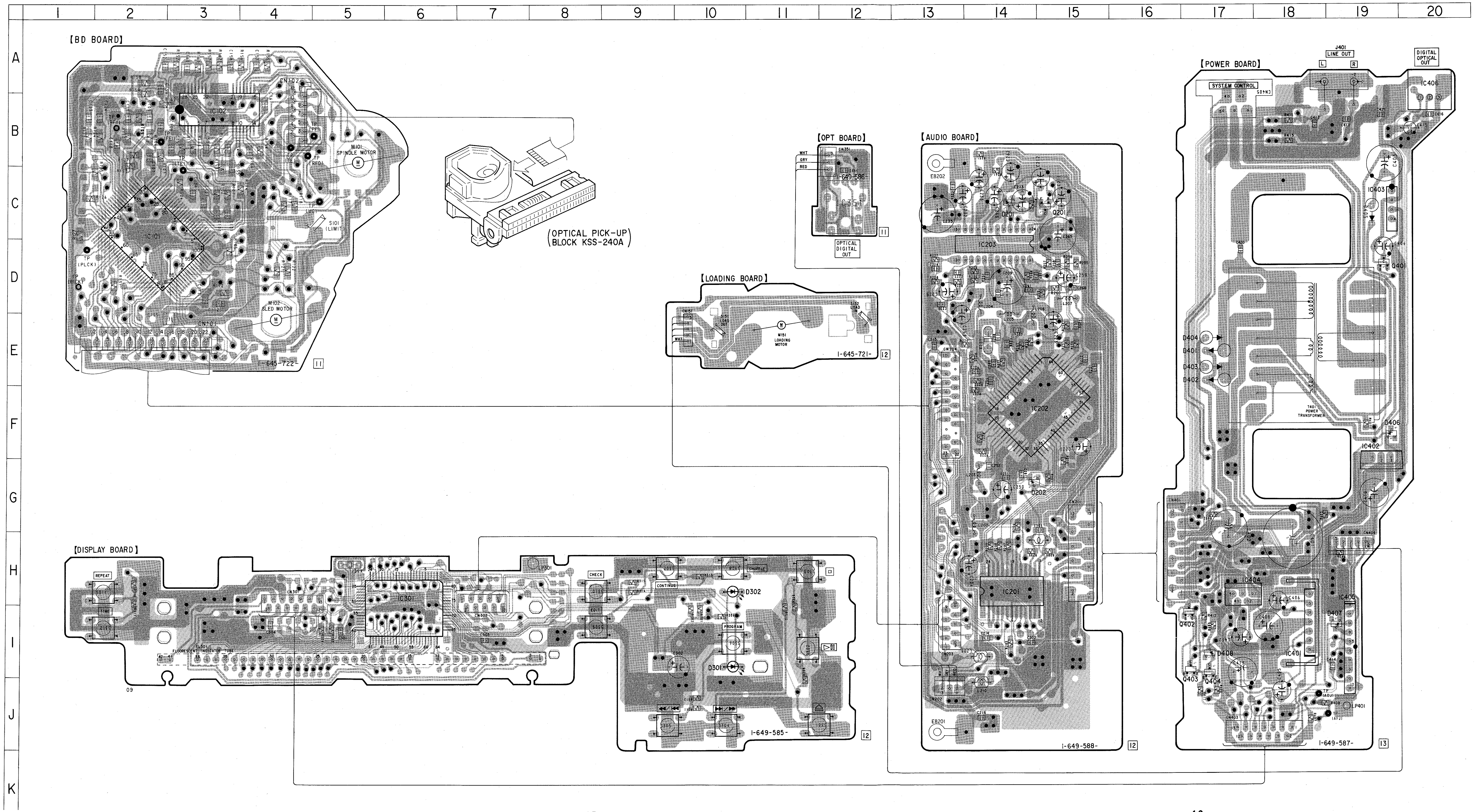

IC101
DIGITAL SIGNAL PROCESSOR
OPTICAL PICK-UP BLOCK KSS-240A
IC1
DETECTOR
RF AMP
FOCUS ERROR AMP
TRACKING ERROR AMP
VR3 FOCUS BIAS
VR2 E-F BALANCE
LASER DIODE
TR1 LD DRIVE
VR1 LD POWER
AUTOMATIC POWER CONTROL
INTEGRATOR
ASYMMETRY CORRECTION
MUX
CLOCK GENERATOR
EFM DEMODULATOR
DIGITAL PLL
REGISTER
DATA BUS
PRIORITY ENCODER
ADDRESS GENERATOR
32K RAM
ERROR CORRECTOR
DIGITAL OUT
SUBCODE P-W PROCESSOR
SUBCODE Q PROCESSOR
PEAK DETECTOR
D/A DATA PROCESSOR
SERIAL/PARALLEL PROCESSOR
SYNC PROTECTOR
TIMING GENERATOR 1
TIMING GENERATOR 2
CLV SERVO PROCESSOR
18 TIMS OVERSAMPLING FILTER
NOISE SHAPER
CPU INTERFACE
SERVO AUTO SEQUENCER
SERVO INTERFACE
INTE-GRATOR
A/D CONVERTER
MIRR DFCT FOK DETECTOR
SERVO DSP
FOCUS SERVO
TRACKING SERVO
SLED SERVO
PWM GENERATOR
TRACKING PWM GENERATOR
FOCUS PWM GENERATOR
SLED PWM GENERATOR
IC102
FOCUS/TRACKING COIL DRIVE, SPINDLE/SLED MOTOR DRIVE
TRACKING COIL
FOCUS COIL
M102 SLED MOTOR
M101 SPINDLE MOTOR
S101 LIMIT
+5V
IC351
OPTICAL DIGITAL OUT
IC406
DIGITAL OPTICAL OUT
IC201
DIGITAL FILTER
INPUT
OUTPUT
MODE
TIMING
IC202
D/A CONVERTER
TIMING CIRCUIT
CLOCK GENERATOR
X201 45MHz
D/A CONVERTER
IC203
LINE AMP, ATT, MUTING
DIFFERENTIAL AMP
LPF
ATT. MUTE
L OUT
R OUT
J401 LINE OUT
Q201
MUTE
SWITCH
REG SW
+5V REG
+5V (IC202)
IC301
SYSTEM CONTROLLER, FLD DRIVE
X301 4MHz
KEY MATRIX
S301-312
FL301
FLUORESCENT INDICATOR TUBE
SEG1-SEG24
1G-8G
TP (ADJ)
TP (AFJ)
S152 LOAD IN
S151 LOAD OUT
IC405
MOTOR DRIVE
M151 LOADING MOTOR
LOADING MOTOR DRIVE
D407
D301 (PROGRAM)
D302 (SHUFFLE)
PROG LED
SHFL-LED
LDON
Q404 BUS BUFFER
D408
BUS-OUT
BUS-IN
Q402
Q403
SWITCH
IC404
+5V REG
IC401
RESET ON/OFF, +5V REG
RESET GEN
IC403
-32V REG
Q401
D401, 402 +10V RECT
D403, 404 -10V RECT
D405 -B RECT
T401 POWER TRANSFORMER
CN405 SYSTEM CONTROL
(IC203) +10V -10V
(IC301) +5V
(IC1, 101, IC201, 202, IC351, 406) +5V
(IC301) -32V
(FL301) F1 F2
AC
BUS
09

6-3. PRINTED WIRING BOARDS

- **See page 10 for Circuit Boards Location.**
- **See page 21 for Semiconductor Lead Layouts.**

- **Semiconductor Location**

Ref. No.	Location
D201	C-14
D202	G-15
D301	I-10
D302	H-10
D401	E-17
D402	E-17
D403	E-17
D404	E-17
D405	C-19
D406	F-19
D407	I-19
D408	I-17
IC101	C-2
IC102	B-3
IC201	H-14
IC202	F-15
IC203	D-14
IC301	H-6
IC351	C-12
IC401	I-18
IC402	F-19
IC403	C-19
IC404	H-17
IC405	H-19
IC406	A-20
Q201	C-15
Q401	D-19
Q402	I-17
Q403	I-17
Q404	I-17

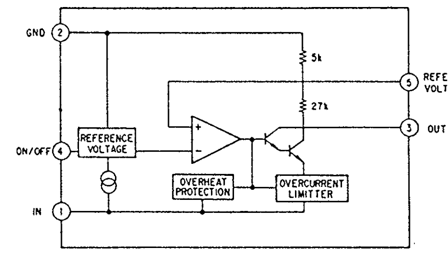

[BD BOARD]
M101 SPINDLE MOTOR
M102 SLED MOTOR
S101 (LIMIT)
IC101
IC102
1-645-722-
(OPTICAL PICK-UP BLOCK KSS-240A)
[OPT BOARD]
1-649-586-
OPTICAL DIGITAL OUT
[LOADING BOARD]
M151 LOADING MOTOR
1-645-721-
[AUDIO BOARD]
IC201
IC202
IC203
1-649-588-
[POWER BOARD]
SYSTEM CONTROL
J401 LINE OUT
DIGITAL OPTICAL OUT
T401 POWER TRANSFORMER
1-649-587-
[DISPLAY BOARD]
REPEAT
CHECK
CONTINUE
PROGRAM
EDIT
IC301
1-649-585-

Note:
- o—— : parts extracted from the component side.
- ● : Through hole.
- ▨ : Pattern from the side which enable seeing.
- ▨ : Pattern of the rear side.

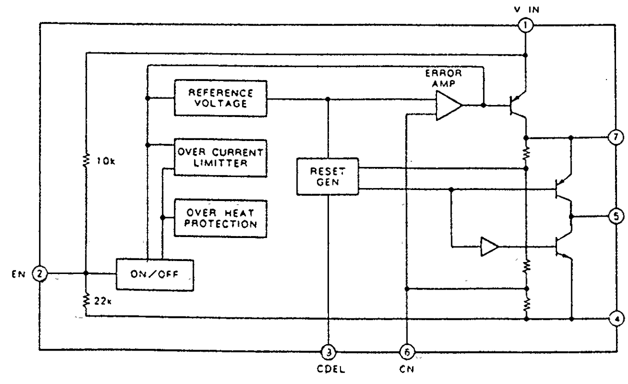
6-4. SCHEMATIC DIAGRAM

- See page 22 for IC Pin Functions.

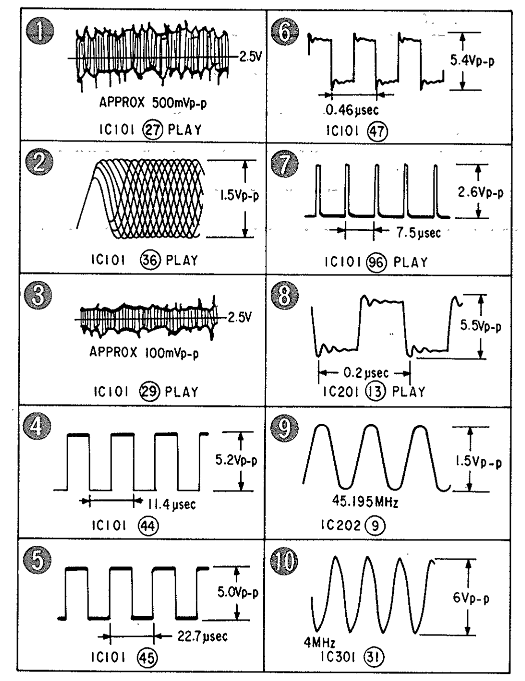
IC403 M5293L


REFERENCE VOLTAGE
OUT
ON/OFF
IN
REFERENCE VOLTAGE
OVERHEAT PROTECTION
OVERCURRENT LIMITER

IC401 LA5602


V IN
REFERENCE VOLTAGE
ERROR AMP
OVER CURRENT LIMITTER
RESET GEN
OVER HEAT PROTECTION
ON/OFF
V OUT
RES
GND
EN
CDEL
CN

- **Waveforms.**

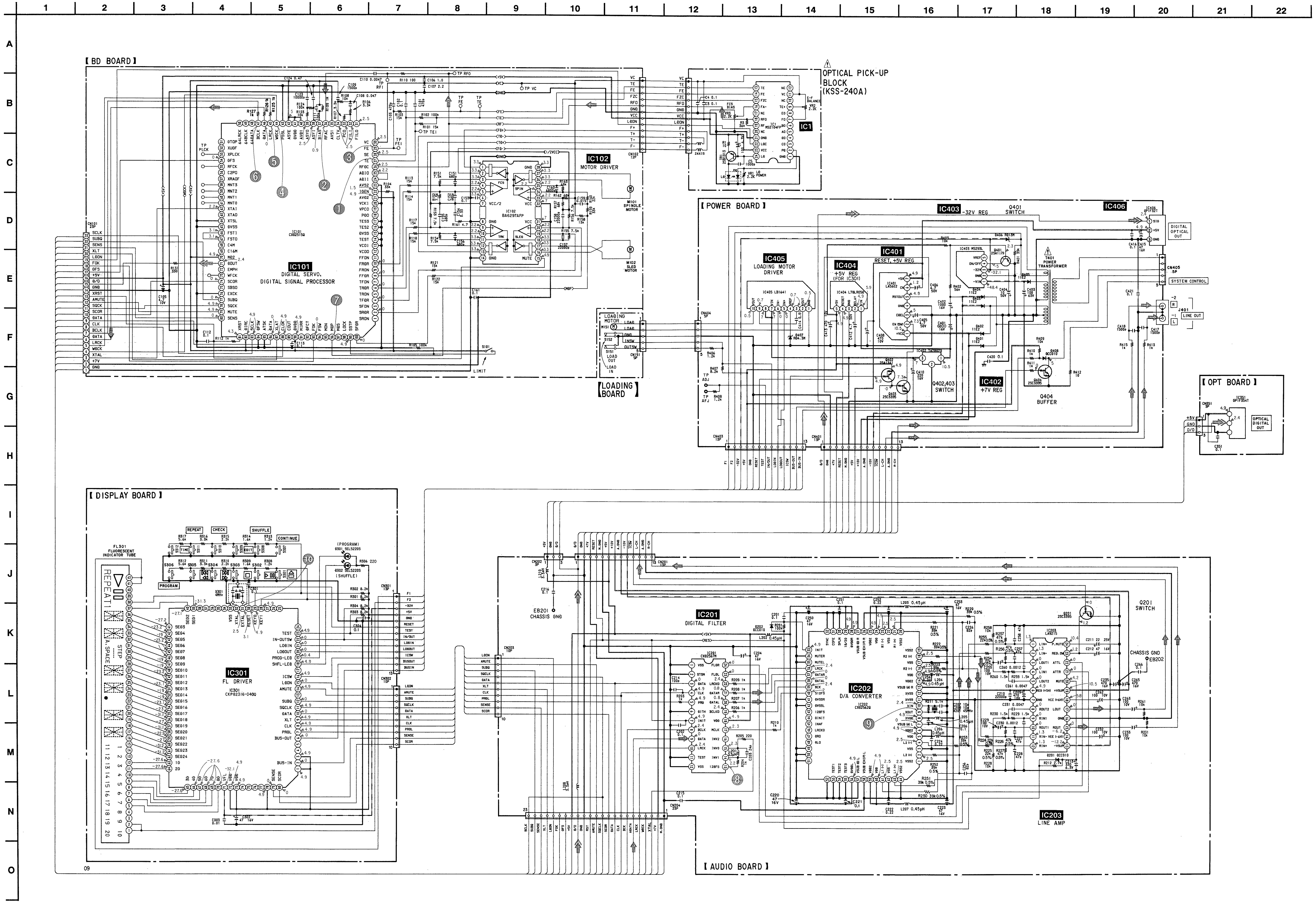


Note:

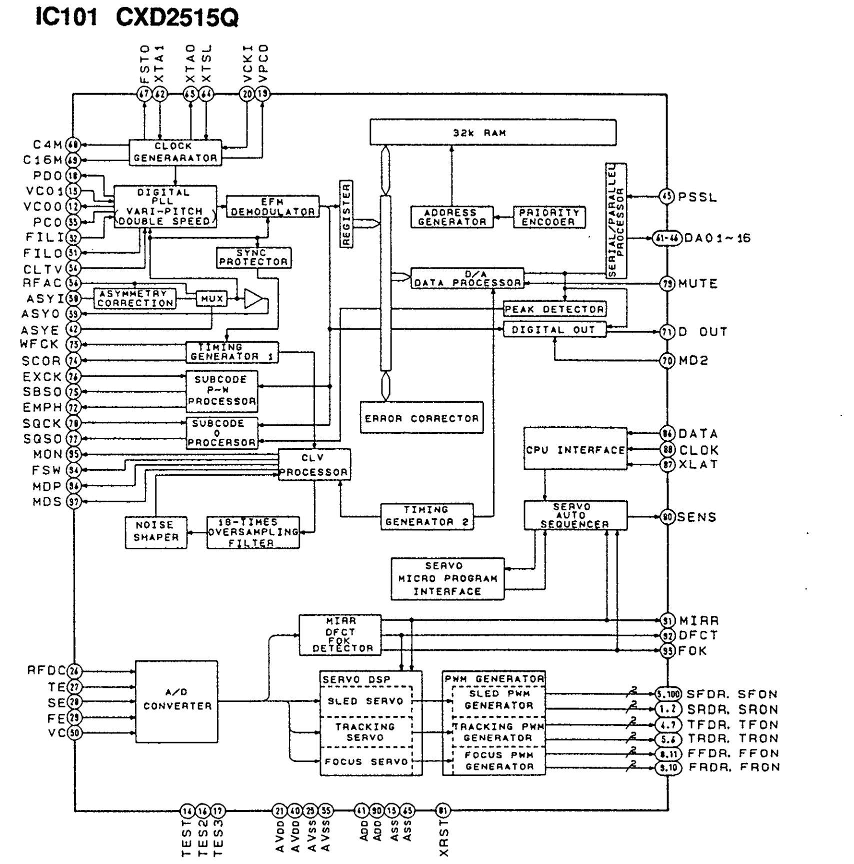
- All capacitors are in μF unless otherwise noted. pF:μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▭ : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	**Note:** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

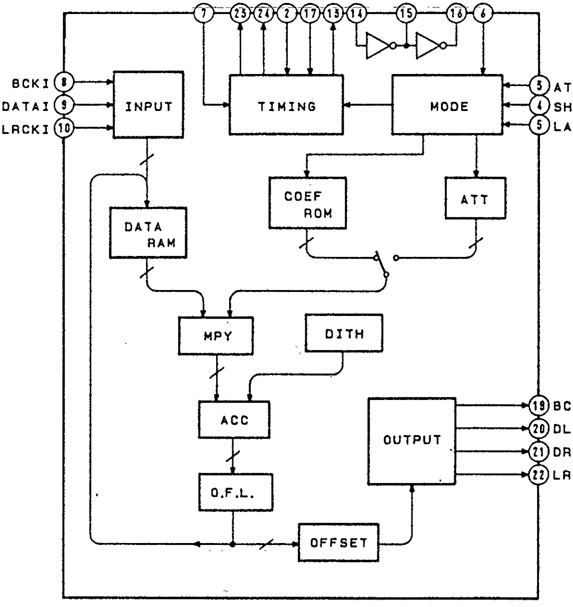
- ▬▬ : B+ Line
- ▬ ▬ ▬ : B– Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : PLAY
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD
  ⇨⇨ : digital out


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
A B C D E F G H I J K L M N O
【BD BOARD】
IC101
DIGITAL SERVO, DIGITAL SIGNAL PROCESSOR
IC102
MOTOR DRIVER
IC102 BA6297AFP
M101 SPINDLE MOTOR
M102 SLED MOTOR
OPTICAL PICK-UP BLOCK (KSS-240A)
IC1
【LOADING BOARD】
S101 LIMIT
【POWER BOARD】
IC403 -32V REG
Q401 SWITCH
IC406
DIGITAL OPTICAL OUT
IC405 LOADING MOTOR DRIVER
IC404 +5V REG (FOR IC301)
IC401 RESET, +5V REG
T401 POWER TRANSFORMER
CN405 5P
SYSTEM CONTROL
J401 LINE OUT
IC402 +7V REG
Q402,403 SWITCH
Q404 BUFFER
【OPT BOARD】
OPTICAL DIGITAL OUT
【DISPLAY BOARD】
FL301 FLUORESCENT INDICATOR TUBE
REPEAT
CHECK
SHUFFLE
CONTINUE
PROGRAM
(PROGRAM)
(SHUFFLE)
IC301
FL DRIVER
IC301 CXP82316-040Q
IC201
DIGITAL FILTER
IC202
D/A CONVERTER
IC203
LINE AMP
Q201 SWITCH
CHASSIS GND
EB201 CHASSIS GND
EB202
【AUDIO BOARD】

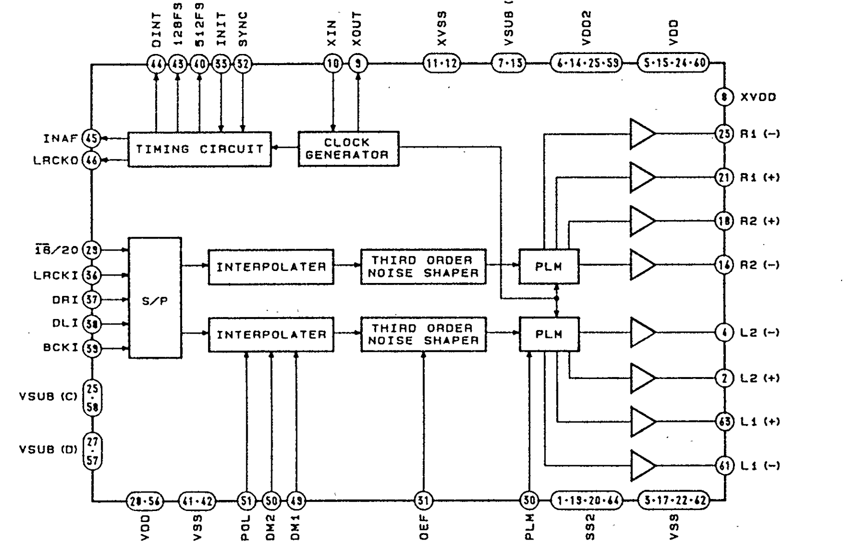
IC101 CXD2515Q


CLOCK GENERATOR
DIGITAL CLV
EFM DEMODULATOR
32k RAM
ADDRESS GENERATOR
PRIORITY ENCODER
D/A DATA PROCESSOR
PEAK DETECTOR
DIGITAL OUT
SUBCODE P-W PROCESSOR
SUBCODE Q PROCESSOR
ERROR CORRECTOR
CPU INTERFACE
SERVO AUTO SEQUENCER
TIMING GENERATOR
SERVO MICRO PROGRAM INTERFACE
A/D CONVERTER
SERVO DSP
PWM GENERATOR
PSSL
MUTE
DATA
CLOK
XLAT
SENS

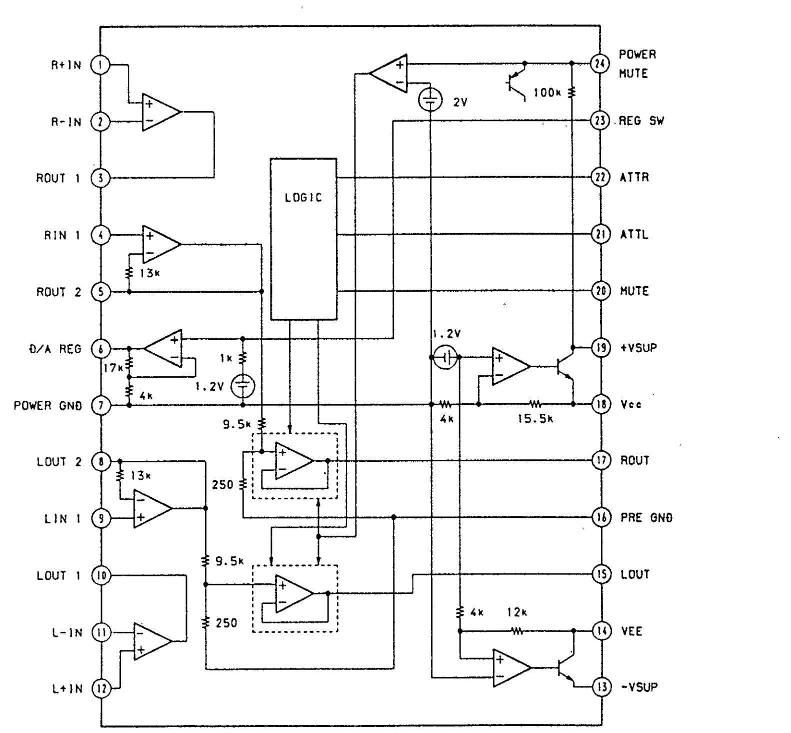
IC201 CXD2567M


BCKI
DATAI
LRCKI
INPUT
TIMING
MODE
ATT
SHIFT
LATCH
COEF ROM
DATA RAM
MPY
DITH
ACC
O.F.L.
OUTPUT
OFFSET
BCKO
DL
DR
LRCKO

IC202 CXD2562Q

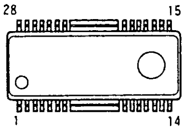

TIMING CIRCUIT
CLOCK GENERATOR
INTERPOLATER
THIRD ORDER NOISE SHAPER
PLM
XVDD
R1 (-)
R1 (+)
R2 (+)
R2 (-)
L2 (-)
L2 (+)
L1 (+)
L1 (-)

IC203 LA9215

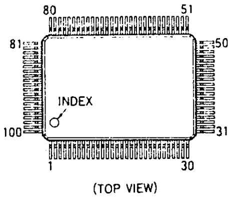

R+IN
R-IN
ROUT 1
RIN 1
ROUT 2
D/A REG
POWER GND
LOUT 2
LIN 1
LOUT 1
L-IN
L+IN
LOGIC
POWER MUTE
REG SW
ATTR
ATTL
MUTE
+VSUP
Vxx
ROUT
PRE GND
LOUT
VEE
-VSUP

6-5. SEMICONDUCTOR LEAD LAYOUTS

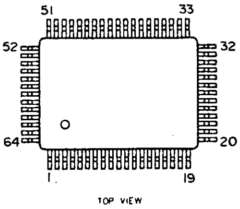
BA6297AFP



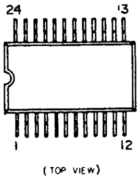
CXD2515Q


80
51
81
50
INDEX
100
31
1
30
(TOP VIEW)

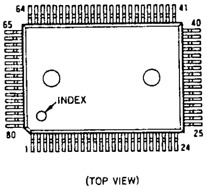
CXD2562Q


51
33
52
32
64
20
1
19
TOP VIEW

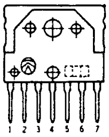
CXD2567M


24
13
1
12
(TOP VIEW)

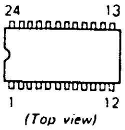
CXP82316-040Q


64
41
65
40
INDEX
80
25
1
24
(TOP VIEW)

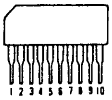
LA5602



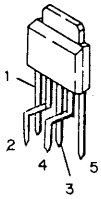
LA9215


24
13
1
12
(Top view)

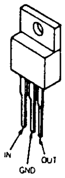
LB1641


1 2 3 4 5 6 7 8 9 10

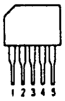
L78LR05D



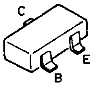
M5F78M07L



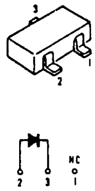
M5293L



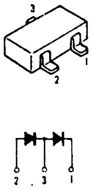
2SA1179-M5M6
2SC3395
DTA144EK



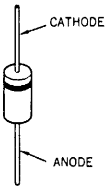
RD13M-B1
RD4.3M-B1



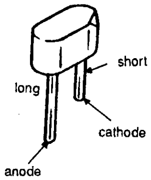
1SS226



10E2


CATHODE
ANODE

SEL5220S


short
long
cathode
anode

6-6. IC PIN FUNCTIONS

• IC101 (CXD2515Q)

No.	Pin Name	I/O	Description
1	SRON	O	Sled drive output
2	SRDR	O	Sled drive output
3	SFON	O	Sled drive output
4	TFDR	O	Tracking drive output
5	TRON	O	Tracking drive output
6	TRDR	O	Tracking drive output
7	TFON	O	Tracking drive output
8	FFDR	O	Focus drive output
9	FRON	O	Focus drive output
10	FRDR	O	Focus drive output
11	FFON	O	Focus drive output
12	VCOO	O	VCO output for analog EFM PLL
13	VCOI	I	VCO output for analog EFM PLL
14	TEST	I	TEST pin connected normally to GND
15	DVss	—	Digital GND
16	TES2	I	TEST pin connected normally to GND
17	TES3	I	TEST pin connected normally to GND
18	PDO	O	Charge-pump output for analog EFM PLL
19	VPCO	O	Charge-pump output for variable pitch PLL
20	VCKI	I	Clock input from variable pitch external VCO
21	AVD2	—	Analog power supply
22	IGEN	I	Power supply pin for operational amplifiers
23	AVS2	—	Analog GND
24	ADII	I	Input pin for A/D converter
25	ADIO	O	Operational amplifier output pin
26	RFDC	I	RF signal input
27	TE	I	Tracking error signal input
28	SE	I	Sled error signal input
29	FE	I	Focus error signal input
30	VC	I	Center voltage input pin
31	FILO	O	Filter output for master PLL
32	FILI	I	Filter input for master PLL
33	PCO	O	Charge-pump output for master PLL
34	CLTV	I	Control voltage input for master VCO
35	AVS1	—	Analog GND
36	RFAC	I	EFM signal input
37	BIAS	I	Asymmetry circuit constant current input
38	ASYI	I	Asymmetry comparate voltage input
39	ASYO	O	EFM full swing output
40	AVD1	—	Analog power supply
41	DVDD	—	Digital power supply
42	ASYE	I	Asymmetry circuit ON/OFF
43	PSSL	I	Audio data output mode selection input
44	WDCK	O	48-bit slot D/A interface. Word clock

No.	Pin Name	I/O	Description
45	LRCK	O	48-bit slot D/A interface. LR clock
46	DATA	O	DA 16 output when PSSL = 1. 48-bit slot serial data when PSSL = 0
47	BCLK	O	DA 15 output when PSSL = 1. 48-bit slot data when PSSL = 0
48	64DATA	O	DA 14 output when PSSL = 1. 64-bit slot data when PSSL = 0
49	64BCLK	O	DA 13 output when PSSL = 1. 64-bit slot data when PSSL = 0
50	64LRCK	O	DA 12 output when PSSL = 1. 64-bit slot data when PSSL = 0
51	GTOP	O	DA 11 output when PSSL = 1. GTOP output when PSSL = 0
52	XUGF	O	DA 10 output when PSSL = 1. XUGF output when PSSL = 0
53	XPLCK	O	DA 09 output when PSSL = 1. XPLCK output when PSSL = 0
54	GFS	O	DA 08 output when PSSL = 1. GFS output when PSSL = 0
55	PFCK	O	DA 07 output when PSSL = 1. RFCK output when PSSL = 0
56	C2PO	O	DA 06 output when PSSL = 1. C2PO output when PSSL = 0
57	XRAOF	O	DA 05 output when PSSL = 1. XRA0F output when PSSL = 0
58	MNT3	O	DA 04 output when PSSL = 1. MNT3 output when PSSL = 0
59	MNT2	O	DA 03 output when PSSL = 1. MNT2 output when PSSL = 0
60	MNT1	O	DA 02 output when PSSL = 1. MNT1 output when PSSL = 0
61	MNT0	O	DA 01 output when PSSL = 1. MNT0 output when PSSL = 0
62	XTAI	I	X'tal oscillator circuit input
63	XTAO	O	X'tal oscillator circuit output
64	XTSL	I	X'tal selection input pin
65	DVss	—	Digital GND
66	FSTI	I	2/3 divider output of pins 62,63
67	FSTO	O	2/3 divider output of pins 62,63
68	C4M	O	4.2336MHz output
69	C16M	O	16.9344MHz output
70	MD2	I	Digital-out ON/OFF control pin
71	DOUT	O	Digital-out output pin
72	EMPH	O	Playback disc output in emphasis mode
73	WFCK	O	WFCK output
74	SCOR	O	Sub-code sync output
75	SBSO	O	Sub-P through Sub-W serial output
76	EXCK	I	Clock input for SBS0 read-out
77	SUBQ	O	Sub-Q 80-bit output
78	SQCK	I	Clock input for SQS0 read-out
79	MUTE	I	Muting selection pin
80	SENS	O	SENS output
81	XRST	I	System reset
82	DIRC	I	Used in 1-track jump mode
83	SCLK	I	SENS serial data read-out clock
84	DFSW	I	DFCT selection pin
85	ATSK	I	Input pin for anti-shock
86	DATA	I	Serial data input, supplied from CPU
87	XLAT	I	Latch input, supplied from CPU
88	CLOK	I	Serial data transfer clock input, supplied from CPU

No.	Pin Name	I/O	Description
89	COUT	O	Numbers of track counted signal output
90	DV_{DD}	—	Digital power supply
91	MIRR	O	Mirror signal output
92	DFCT	O	Defect signal output
93	FOK	O	Focus OK output
94	FSW	O	Output to select spindle motor output filter
95	MON	O	Output to control ON/OFF of spindle motor
96	MDP	O	Output to control spindle motor servo
97	MDS	O	Output to control spindle motor servo
98	LOCK	O	GFS is sampled by 460Hz. H when GFS is H.
99	SSTP	I	Input signal to detect disc inner most track
100	SFDR	O	Sled drive output

• IC301 CD MECHANISM CONTROLLER, FL DRIVER (CXP82316-040Q)

Pin No.	Pin Name	I/O	Function
1	——	–	Connected to +5V.
2	BUS-IN	I	Audio bus input
3	——	–	Connected to +5V.
4	——	–	Not used. (Open)
5	——	–	
6	BUS-OUT	O	Audio bus output
7	PRGL	O	Latch signal output to the digital filter (IC201)
8	CLK	O	Serial clock output
9	XLT	O	Serial data latch signal output
10	DATA	O	Serial data output
11	SQCLK	O	Sub-code Q data read-out clock output
12	SUBQ	I	Sub code Q data input
13	——	–	Not used. (Open)
14	AMUTE	O	Analog muting control signal output
15	LDON	O	Optical pick-up laser diode control output
16	ICSW	O	+5V REG switch output signal to IC203 and IC401
17	——	–	Not used. (Open)
18	SHFL-LED	O	Drive output to the SHUFFLE LED (D302)
19	PROG-LED	O	Drive output to the PROGRAM LED (D301)
20	LODOUT	O	Loading motor control signal output
21	LODIN	O	
22	IN-OUTSW	I	Loading IN/OUT switch input
23	TEST	–	ADJ, AFJ test pin
24 to 27	——	–	Not used. (Open)
28	KEY1	I	Key input (S301 to S306)
29	KEY0	I	Key input (S307 to S312)
30	RESET	I	Reset signal input
31	EXTAL	I	Clock input (4 MHz)
32	XTAL	O	Clock output (4 MHz)
33	Vss	–	GND
34 to 38	——	–	Not used. (Open)
39 to 62	SEG1 to SEG24	O	FL segment output
63 to 70	1G~8G	O	FL grid output
71	VFL	–	–32V pin for FL display
72	VDD	–	+5V
73	VDD	–	
74	——	–	Not used. (Open)
75	——	–	
76	——	–	
77	——	–	
78	——	–	Connected to +5V.
79	SENSE	I	SENSE signal input
80	SCOR	I	Sub code Q data read-out timing signal input

SECTION 7
EXPLODED VIEWS

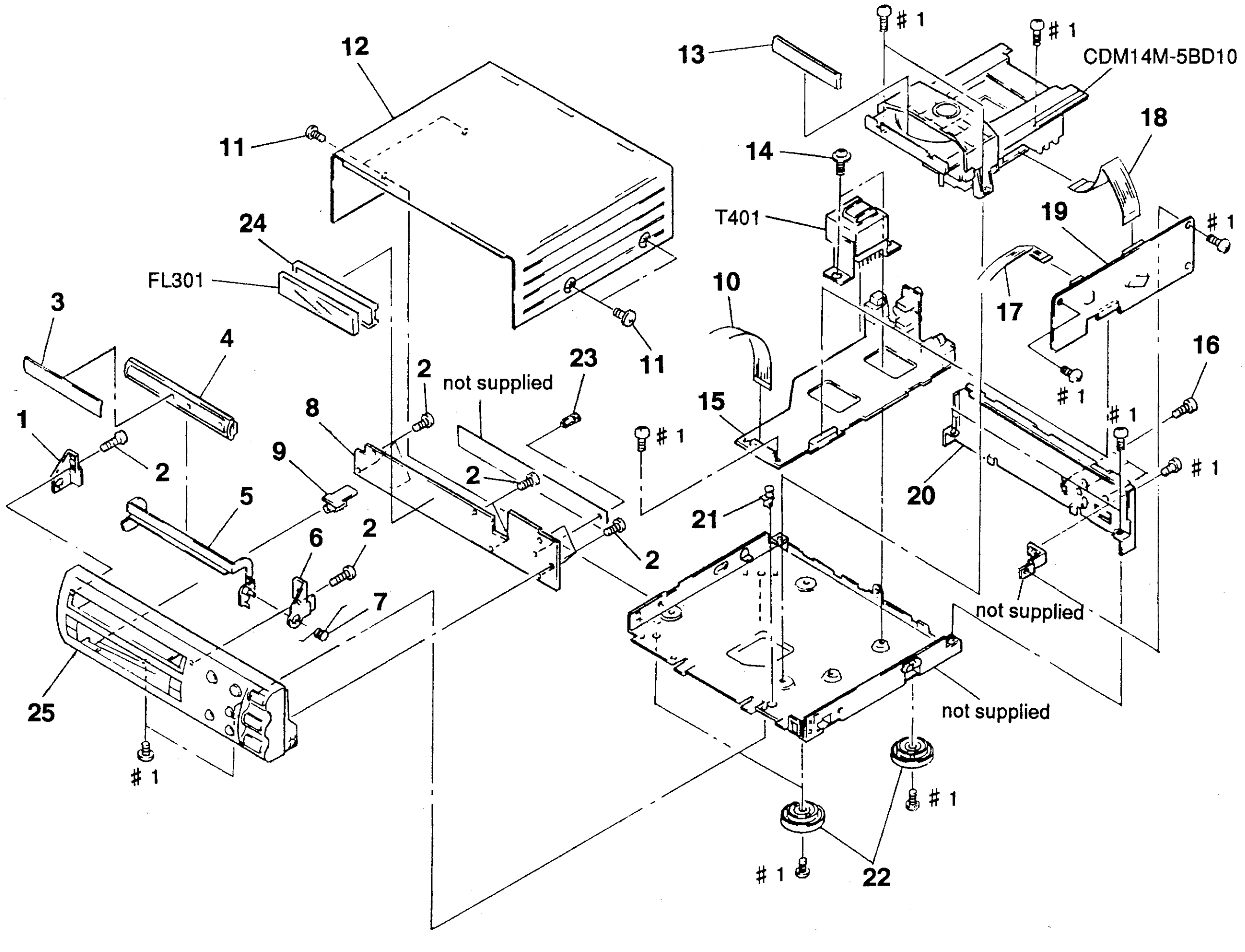
NOTE:
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

- CND : Canadian model
- G : German model
- IT : Italian model
- EA : Saudi Arabia model
- AUS : Australian model
- SP : Singapore model
- MY : Malaysia model
- JE : Tourist model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

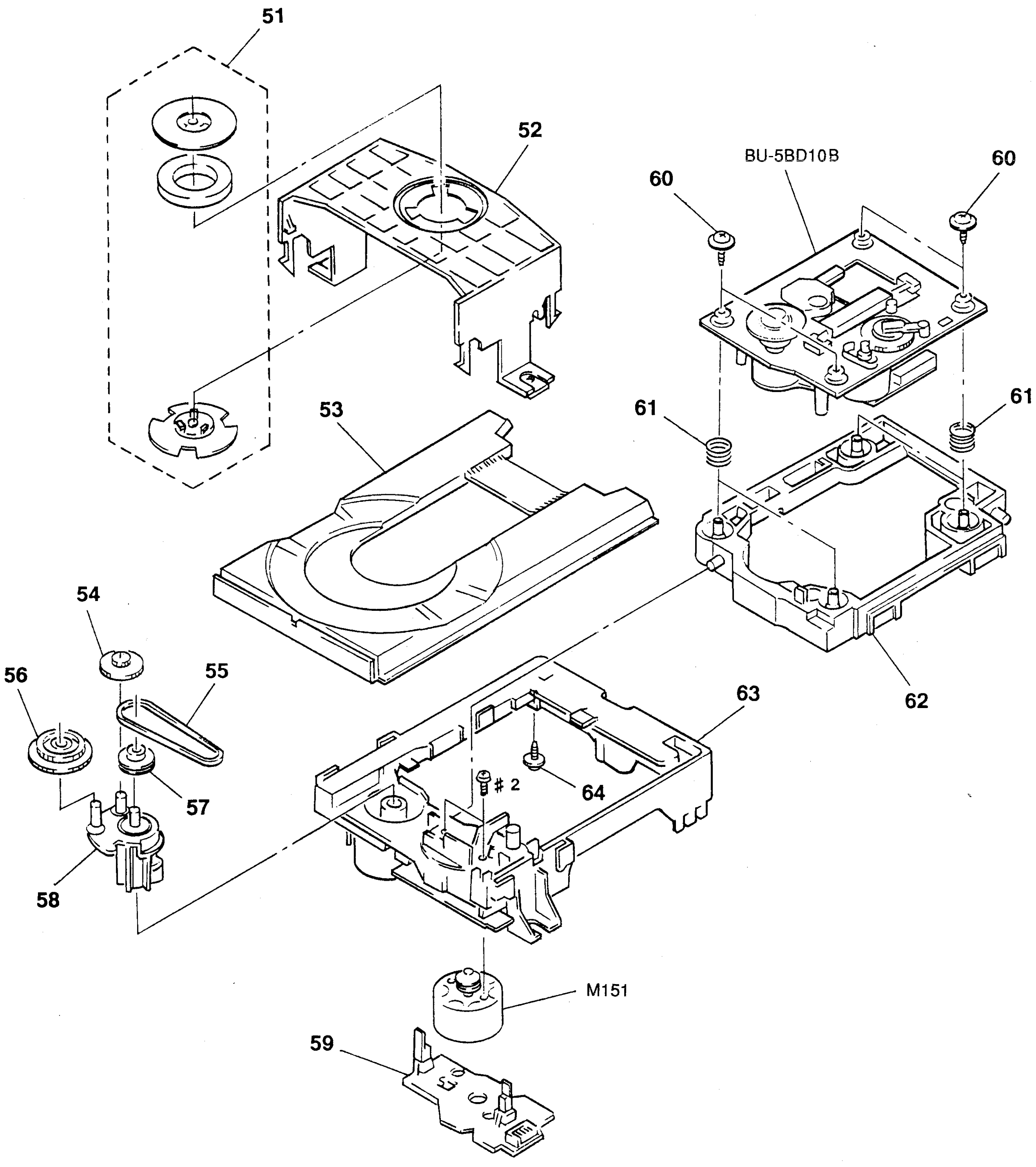
7-1. CASE AND CHASSIS BLOCK



Ref. No.	Part No.	Description	Remark
1	4-961-479-01	GUIDE (DOOR L)	
2	4-951-620-01	SCREW (2.6X8), +BVTP	
3	4-961-470-01	DOOR (ORNAMENTAL PLATE)	
4	4-961-469-01	LID (BASE)	
5	X-4944-052-1	LID (BRACKET) ASSY	
6	4-961-472-01	GUIDE (DOOR R)	
7	4-961-476-01	SPRING (DOOR)	
* 8	A-4673-062-A	DISPLAY BOARD, COMPLETE	
* 9	1-649-586-11	OPT BOARD	
10	1-751-548-11	WIRE (FLAT TYPE) (13 CORE)	
11	3-363-099-21	SCREW (CASE 3 TP2)	
* 12	4-961-481-01	CASE	
13	4-961-486-01	PANEL, LOADING	
14	4-886-821-11	SCREW, S TIGHT, +PTTWH 3X6	
* 15	A-4673-060-A	POWER BOARD, COMPLETE	

Ref. No.	Part No.	Description	Remark
16	3-704-515-21	SCREW (BV/RING)	
17	1-751-547-11	WIRE (FLAT TYPE) (10 CORE)	
18	1-751-549-11	WIRE (FLAT TYPE) (23 CORE)	
* 19	A-4673-061-A	AUDIO BOARD, COMPLETE	
* 20	4-961-483-11	PANEL, BACK (US, CND, AEP, IT, AUS, EA, E, JE, MY, SP, UK)	
* 20	4-961-483-21	PANEL, BACK (G)	
* 21	3-670-570-00	SPACER, SUPPORT	
22	X-4944-053-1	FOOT (DIA. 42) ASSY	
23	3-531-576-01	RIVET	
25	X-4944-371-1	PANEL ASSY, FRONT	
FL301	1-517-233-11	INDICATOR TUBE, FLUORESCENCE	
⚠T401	1-423-814-11	TRANSFORMER, POWER	

7-2. MECHANISM DECK BLOCK


51
52
BU-5BD10B
60
60
61
61
53
54
56
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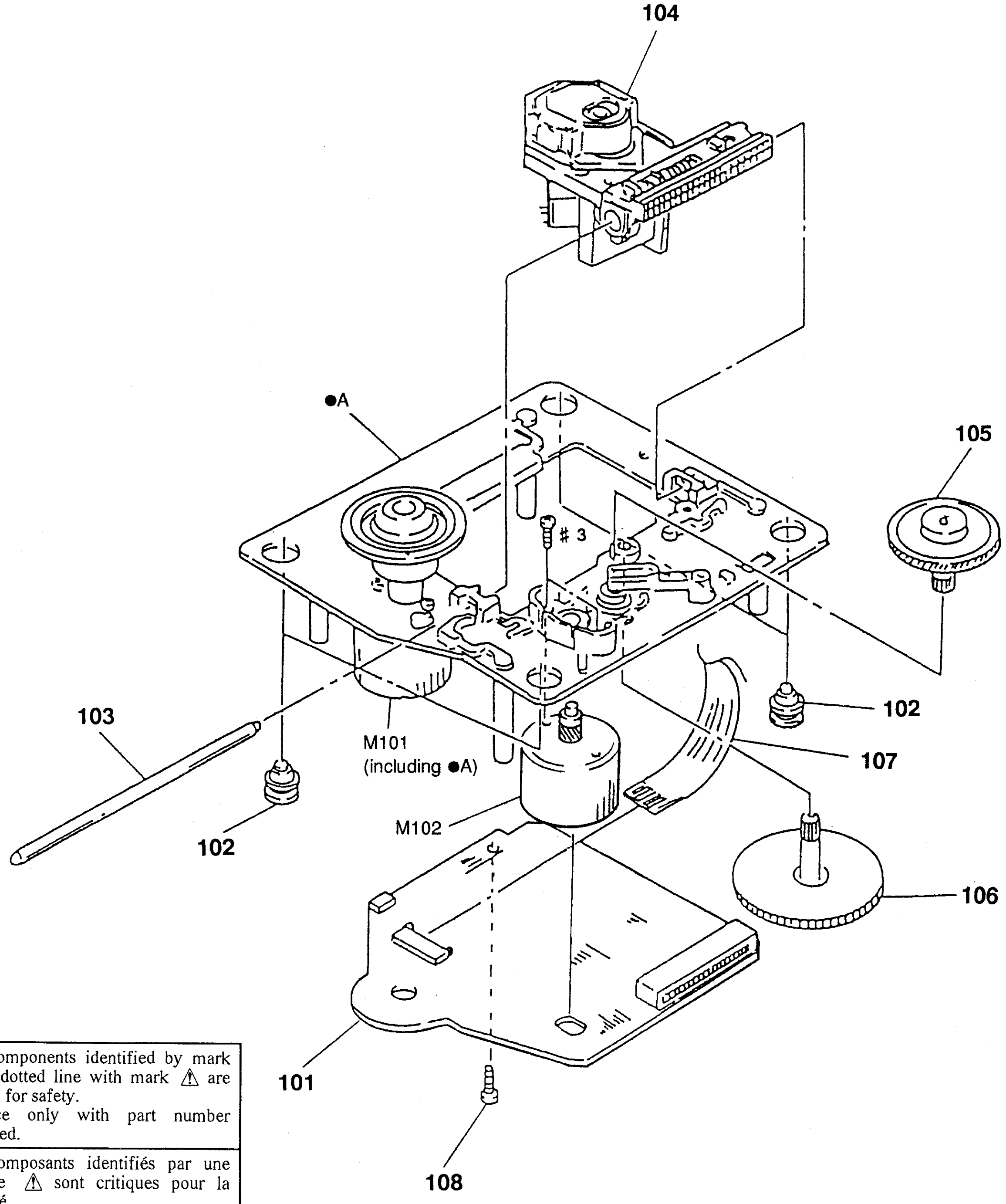
62
64
# 2
57
58
M151
59

Ref. No.	Part No.	Description	Remark
* 51	1-452-538-11	MAGNET	
52	4-933-110-01	HOLDER (MG)	
53	4-961-487-01	TABLE, DISK	
54	4-927-628-01	GEAR (C)	
55	4-927-649-01	BELT	
56	4-933-107-01	GEAR (PL)	
57	4-927-651-01	PULLEY (S)	
58	4-933-109-01	CAM	
* 59	1-645-721-11	LOADING BOARD	
60	4-933-134-01	SCREW (+PTPWH M2.6X6)	
61	4-959-996-01	SPRING (932), COMPRESSION	
62	4-933-129-01	HOLDER (BU)	
63	4-933-111-01	CHASSIS (MD)	
* 64	4-917-583-21	BRACKET, YOKE	
M151	A-4604-363-A	MOTOR (L) ASSY (LOADING)	

7-3. OPTICAL PICK-UP BLOCK (BU-5BD10B)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 101	A-4649-432-A	BD BOARD, COMPLETE		106	4-917-564-01	GEAR (P), FLATNESS	
102	4-951-940-01	INSULATOR (BU)		107	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
103	4-917-565-01	SHAFT, SLED		108	4-951-620-01	SCREW (2.6X8), +BVTP	
⚠104	8-848-144-11	OPTICAL PICK-UP BLOCK (KSS-240A)		M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
105	4-917-567-01	GEAR (M)		M102	X-4917-504-1	MOTOR ASSY (SLED)	

SECTION 8
ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- Hardware (# mark) list is given in the last of this parts list.

- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μA..., uPA...: μPA..., uPB...: μPB..., uPC...: μPC..., uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH

Ref. No.	Part No.	Description			Remark
*	A-4673-061-A	AUDIO BOARD, COMPLETE			
		*********************			
		< CAPACITOR >			
C201	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C202	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C203	1-163-102-00	CERAMIC CHIP	24PF	5%	50V
C204	1-126-022-11	ELECT	47uF	20%	16V
C206	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C207	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C208	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C209	1-124-997-11	ELECT	470uF	20%	10V
C210	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C211	1-126-049-11	ELECT	22uF	20%	25V
C212	1-126-022-11	ELECT	47uF	20%	16V
C213	1-124-442-00	ELECT	330uF	20%	6.3V
C214	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C215	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C216	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C220	1-126-022-11	ELECT	47uF	20%	16V
C221	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C222	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C223	1-126-022-11	ELECT	47uF	20%	16V
C224	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C226	1-163-115-00	CERAMIC CHIP	82PF	5%	50V
C227	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C228	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C229	1-124-994-11	ELECT	100uF	20%	10V
C230	1-163-143-00	CERAMIC CHIP	0.0012uF	5%	50V
C231	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C232	1-124-994-11	ELECT	100uF	20%	10V
C233	1-124-994-11	ELECT	100uF	20%	10V
C235	1-126-012-11	ELECT	470uF	20%	16V
C250	1-126-022-11	ELECT	47uF	20%	16V
C251	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C252	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C253	1-126-022-11	ELECT	47uF	20%	16V
C254	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C256	1-163-115-00	CERAMIC CHIP	82PF	5%	50V
C257	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C258	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C259	1-124-994-11	ELECT	100uF	20%	10V
C260	1-163-143-00	CERAMIC CHIP	0.0012uF	5%	50V
C261	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C262	1-124-994-11	ELECT	100uF	20%	10V
C263	1-124-994-11	ELECT	100uF	20%	10V
C265	1-126-012-11	ELECT	470uF	20%	16V
C266	1-163-038-00	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN201	1-695-095-11	SOCKET, CONNECTOR 13P			
* CN202	1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P			
CN203	1-750-224-11	CONNECTOR, FFC/FPC 10P			
CN204	1-764-004-11	CONNECTOR, FFC/FPC 23P			
		< DIODE >			
D201	8-719-800-76	DIODE 1SS226			
D202	8-719-800-76	DIODE 1SS226			
		< GROUND PLATE >			
* EB201	4-870-539-00	PLATE, GROUND			
* EB202	4-870-539-00	PLATE, GROUND			
		< IC >			
IC201	8-752-356-03	IC CXD2567M			
IC202	8-759-044-10	IC CXD2562Q			
IC203	8-759-175-88	IC LA9215			
		< COIL >			
L201	1-410-464-11	INDUCTOR 3.3uH			
L202	1-410-396-41	FERRITE BEAD INDUCTOR 0.45uH			
L203	1-410-396-41	FERRITE BEAD INDUCTOR 0.45uH			
L204	1-410-396-41	FERRITE BEAD INDUCTOR 0.45uH			
L205	1-410-396-41	FERRITE BEAD INDUCTOR 0.45uH			
L206	1-410-396-41	FERRITE BEAD INDUCTOR 0.45uH			
L207	1-410-396-41	FERRITE BEAD INDUCTOR 0.45uH			
L208	1-410-464-11	INDUCTOR 3.3uH			
L210	1-410-464-11	INDUCTOR 3.3uH			

AUDIO BD

Ref. No.	Part No.	Description				Remark
		< TRANSISTOR >				
Q201	8-729-805-45	TRANSISTOR	2SC3395			
		< RESISTOR >				
R201	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R203	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R204	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R205	1-216-033-00	METAL CHIP	220	5%	1/10W	
R206	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R207	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R208	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R209	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R210	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R211	1-216-066-00	METAL CHIP	5.1K	5%	1/10W	
R212	1-216-059-00	METAL CHIP	2.7K	5%	1/10W	
R220	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
R221	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
R222	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
R223	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
R224	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R225	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R226	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R227	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R228	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R229	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R230	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R231	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R250	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
R251	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
R252	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
R253	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
R254	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R255	1-216-683-11	METAL CHIP	22K	0.5%	1/10W	
R256	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R257	1-216-691-11	METAL CHIP	47K	0.5%	1/10W	
R258	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R259	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R260	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R261	1-216-073-00	METAL CHIP	10K	5%	1/10W	
		< VIBRATOR >				
X201	1-579-161-11	VIBRATOR, CRYSTAL (45MHz)				

****

Ref. No.	Part No.	Description				Remark
*	A-4649-432-A	BD BOARD, COMPLETE ******************				
		< CAPACITOR >				
C101	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	
C102	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C103	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	
C105	1-135-155-21	TANTALUM CHIP	4.7uF	10%	16V	
C106	1-164-346-11	CERAMIC CHIP	1uF		16V	
C107	1-164-505-11	CERAMIC CHIP	2.2uF		16V	
C108	1-163-035-00	CERAMIC CHIP	0.047uF		50V	
C109	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V	
C110	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V	
C111	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C112	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C113	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C123	1-164-232-11	CERAMIC CHIP	0.01uF		50V	
C124	1-164-005-11	CERAMIC CHIP	0.47uF		25V	
C151	1-163-007-11	CERAMIC CHIP	680PF	10%	50V	
C152	1-163-007-11	CERAMIC CHIP	680PF	10%	50V	
C153	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C154	1-164-336-11	CERAMIC CHIP	0.33uF		25V	
C155	1-163-007-11	CERAMIC CHIP	680PF	10%	50V	
C156	1-163-007-11	CERAMIC CHIP	680PF	10%	50V	
C157	1-163-033-00	CERAMIC CHIP	0.022uF		50V	
C158	1-163-033-00	CERAMIC CHIP	0.022uF		50V	
C159	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V	
C160	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V	
C161	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
		< CONNECTOR >				
* CN101	1-568-865-11	SOCKET, CONNECTOR 23P				
CN102	1-568-795-11	SOCKET, CONNECTOR 12P				
		< IC >				
IC101	8-752-361-90	IC	CXD2515Q			
IC102	8-759-071-79	IC	BA6297AFP			
		< MOTOR >				
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)				
M102	X-4917-504-1	MOTOR ASSY (SLED)				
		< RESISTOR >				
R101	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R102	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R103	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R104	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R105	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R106	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R107	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R108	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R109	1-216-121-00	METAL CHIP	1M	5%	1/10W	
R110	1-216-025-00	METAL CHIP	100	5%	1/10W	
R112	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R113	1-216-077-00	METAL CHIP	15K	5%	1/10W	

Ref. No.	Part No.	Description	Remark
R114	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R117	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R118	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R121	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R122	1-216-077-00	METAL CHIP 15K 5% 1/10W	
R123	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R124	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R125	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R126	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R127	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R131	1-216-037-00	METAL CHIP 330 5% 1/10W	
R151	1-216-070-00	METAL CHIP 7.5K 5% 1/10W	
R152	1-216-070-00	METAL CHIP 7.5K 5% 1/10W	
R153	1-216-070-00	METAL CHIP 7.5K 5% 1/10W	
R154	1-216-070-00	METAL CHIP 7.5K 5% 1/10W	
R155	1-216-070-00	METAL CHIP 7.5K 5% 1/10W	
R156	1-216-070-00	METAL CHIP 7.5K 5% 1/10W	
R157	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R158	1-216-076-00	METAL CHIP 13K 5% 1/10W	
R159	1-216-085-00	METAL CHIP 33K 5% 1/10W	
R160	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R161	1-216-308-00	METAL CHIP 4.7 5% 1/10W	
R162	1-216-093-00	METAL CHIP 68K 5% 1/10W	
R163	1-216-093-00	METAL CHIP 68K 5% 1/10W	

< SWITCH >

Ref. No.	Part No.	Description	Remark
S101	1-572-085-11	SWITCH, LEAF (LIMIT)	

****

Ref. No.	Part No.	Description	Remark
*	A-4673-062-A	DISPLAY BOARD, COMPLETE	

****

Ref. No.	Part No.	Description	Remark
*	4-961-485-01	HOLDER (FL)	

< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C301	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C302	1-124-589-11	ELECT 47uF 20% 16V	
C303	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C304	1-163-038-00	CERAMIC CHIP 0.1uF 25V	

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
CN301	1-750-230-11	CONNECTOR, FFC/FPC 13P	
CN302	1-750-228-11	CONNECTOR, FFC/FPC 10P	

< DIODE >

Ref. No.	Part No.	Description	Remark
D301	8-719-032-83	LED SEL5220S (PROGRAM)	
D302	8-719-032-83	LED SEL5220S (SHUFFLE)	

< FLUORESCENT INDICATOR >

Ref. No.	Part No.	Description	Remark
FL301	1-517-233-11	INDICATOR TUBE, FLUORESCENT	

< IC >

Ref. No.	Part No.	Description	Remark
IC301	8-752-854-97	IC CXP82316-040Q	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R301	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R302	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R303	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R304	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R306	1-216-033-00	METAL CHIP 220 5% 1/10W	
R308	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R309	1-216-054-00	METAL GLAZE 1.6K 5% 1/10W	
R310	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R311	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R312	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	
R313	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R314	1-216-054-00	METAL GLAZE 1.6K 5% 1/10W	
R315	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R316	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R317	1-216-067-00	METAL CHIP 5.6K 5% 1/10W	

< SWITCH >

Ref. No.	Part No.	Description	Remark
S301	1-554-303-21	SWITCH, TACTILE (⏏)	
S302	1-554-303-21	SWITCH, TACTILE (▷‖)	
S303	1-554-303-21	SWITCH, TACTILE (□)	
S304	1-554-303-21	SWITCH, TACTILE (▷▷|/▷▷)	
S305	1-554-303-21	SWITCH, TACTILE (|◁◁/◁◁)	
S306	1-554-303-21	SWITCH, TACTILE (PROGRAM)	
S307	1-554-303-21	SWITCH, TACTILE (CONTINUE)	
S308	1-554-303-21	SWITCH, TACTILE (SHUFFLE)	
S309	1-554-303-21	SWITCH, TACTILE (EDIT)	
S310	1-554-303-21	SWITCH, TACTILE (CHECK)	
S311	1-554-303-21	SWITCH, TACTILE (REPEAT)	
S312	1-554-303-21	SWITCH, TACTILE (TIME)	

< VIBRATOR >

Ref. No.	Part No.	Description	Remark
X301	1-577-358-21	VIBRATOR, CERAMIC (4MHz)	

****

Ref. No.	Part No.	Description	Remark
*	1-645-721-11	LOADING BOARD	

****

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
* CN151	1-568-943-11	PIN, CONNECTOR 5P	

LOADING | OPT | POWER

Ref. No.	Part No.	Description	Remark
		< MOTOR >	
M151	A-4604-363-A	MOTOR (L) ASSY (LOADING)	
		< SWITCH >	
S151	1-572-086-11	SWITCH, LEAF (LOAD OUT)	
S152	1-572-086-11	SWITCH, LEAF (LOAD IN)	

****

Ref. No.	Part No.	Description	Remark
*	1-649-586-11	OPT BOARD *********	
		< CAPACITOR >	
C351	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
		< CONNECTOR >	
* CN351	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P	
		< IC >	
IC351	8-759-199-42	IC GP1F354T (OPTICAL DIGITAL OUT)	

****

Ref. No.	Part No.	Description	Remark
*	A-4673-060-A	POWER BOARD, COMPLETE ********************	
	7-682-547-09	SCREW +BVTT 3X6 (S)	
		< CAPACITOR >	
C401	1-124-894-11	ELECT 6800uF 20% 16V	
C402	1-124-360-00	ELECT 1000uF 20% 16V	
C403	1-124-572-11	ELECT 100uF 20% 63V	
C404	1-126-059-11	ELECT 10uF 20% 50V	
C405	1-126-163-11	ELECT 4.7uF 20% 50V	
C406	1-126-163-11	ELECT 4.7uF 20% 50V	
C408	1-124-997-11	ELECT 470uF 20% 10V	
C410	1-126-024-11	ELECT 220uF 20% 16V	
C412	1-126-163-11	ELECT 4.7uF 20% 50V	
C413	1-124-997-11	ELECT 470uF 20% 10V	
C414	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C415	1-126-022-11	ELECT 47uF 20% 16V	
C416	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C417	1-163-145-00	CERAMIC CHIP 0.0015uF 5% 50V	
C418	1-163-145-00	CERAMIC CHIP 0.0015uF 5% 50V	
C420	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C421	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
		< CONNECTOR >	
CN401	1-695-090-11	PIN, CONNECTOR (PC BOARD) 13P	
CN403	1-764-166-11	CONNECTOR, FFC/FPC 13P	
CN404	1-568-954-11	PIN, CONNECTOR (STRAIGHT) 5P	
CN405	1-764-016-11	HOUSING, CONNECTOR(PC BOARD)5P	(SYSTEM CONTROL)
		< DIODE >	
D401	8-719-200-02	DIODE 10E2	
D402	8-719-200-02	DIODE 10E2	
D403	8-719-200-02	DIODE 10E2	
D404	8-719-200-02	DIODE 10E2	
D405	8-719-200-02	DIODE 10E2	
D406	8-719-106-79	DIODE RD13M-B1	
D407	8-719-105-63	DIODE RD4.3M-B1	
D408	8-719-800-76	DIODE 1SS226	
		< IC >	
IC401	8-759-061-65	IC LA5602	
IC402	8-759-605-00	IC M5F78M07L	
IC403	8-759-633-42	IC M5293L	
IC404	8-759-805-37	IC L78LR05D	
IC405	8-759-822-09	IC LB1641	
IC406	8-749-921-12	IC GP1F32T (DIGITAL OPTICAL OUT)	
		< JACK >	
J401	1-750-679-11	JACK, PIN 2P (LINE OUT)	
		< TRANSISTOR >	
Q401	8-729-820-76	TRANSISTOR 2SA1179-M5M6	
Q402	8-729-901-06	TRANSISTOR DTA144EK	
Q403	8-729-805-45	TRANSISTOR 2SC3395	
Q404	8-729-805-45	TRANSISTOR 2SC3395	
		< RESISTOR >	
R401	1-216-689-11	METAL CHIP 39K 0.5% 1/10W	
R402	1-216-091-00	METAL CHIP 56K 5% 1/10W	
R403	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R406	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R407	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R408	1-216-051-00	METAL CHIP 1.2K 5% 1/10W	
R409	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R410	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R411	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R412	1-216-001-00	METAL CHIP 10 5% 1/10W	
R413	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R415	1-216-049-00	METAL CHIP 1K 5% 1/10W	
		< TRANSFORMER >	
⚠T401	1-423-814-11	TRANSFORMER, POWER	

****

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS *************					
10	1-751-548-11	WIRE (FLAT TYPE) (13 CORE)					
17	1-751-547-11	WIRE (FLAT TYPE) (10 CORE)					
18	1-751-549-11	WIRE (FLAT TYPE) (23 CORE)					
* 51	1-452-538-11	MAGNET					
⚠104	8-848-144-11	OPTICAL PICK-UP BLOCK (KSS-240A)					
107	1-575-001-11	WIRE, FLAT TYPE (12 CORE)					
FL301	1-517-233-11	INDICATOR TUBE, FLUORESCENCE					
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)					
M102	X-4917-504-1	MOTOR ASSY (SLED)					
M151	A-4604-363-A	MOTOR (L) ASSY (LOADING)					
⚠T401	1-423-814-11	TRANSFORMER, POWER					
**							
		******************* HARDWARE LIST *******************					
#1	7-682-547-09	SCREW +BV 3X6, S TIGHT					
#2	7-621-775-10	SCREW +B 2.6X4					
#3	7-621-255-15	SCREW +P 2X3					

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Sony Corporation
Audio Group

9-959-371-11

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TA-H7900E

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model
Tourist Model

SONY
SYSTEM POWER
HEADPHONES
MIX MIC
MHC-7900
FUNCTION
VIDEO 1
VIDEO2/MD/DAT
TAPE
CD
TUNER
PHONO
MIC LEVEL
KARAOKE PON
DSP MENU
DSP CONTROL
DISPLAY
AI P.EQ
AI LPC
ENTER
CANCEL
DIRECT

TA-H7900E is the PREAMPLIFIER
section in MHC-7900/ P100X

Photo : AEP model

SPECIFICATIONS

Dolby noise reduction manufactured under license from
Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ㏈ are trademarks of
Dolby Laboratories Licensing Corporation.

Preamplifier

US, CND, E, AUS, EA, MY, SP, JE MODEL : Continuous RMS power output
REAR: 18 + 18 watts (8 ohms, at 1 kHz, 5% THD)
Peak music power output
200 watts (2 speakers driven)

AEP, UK, G, IT MODEL : Continuous RMS power output
REAR: 15 + 15 watts (8 ohms, at 1 kHz, DIN)
REAR: 18 + 18 watts (8 ohms, at 1 kHz, 5% THD)

Audio inputs

ALL MODEL : TUNER (phono jacks):
TAPE (phono jacks):
sensitivity 400 mV,
impedance 47 kilohms
CD (phono jacks):
VIDEO 1 (phono jacks):

US, CND, E, AUS, EA, MY, SP, JE MODEL : VIDEO 2 (phono jacks):
MD/DAT (phono jacks):
sensitivity 250 mV,
impedance 47 kilohms

AEP, UK, G, IT MODEL : VIDEO 2/MD/DAT (phono jacks):
sensitivity 250 mV,
impedance 47 kilohms

AEP, UK, G, IT MODEL : PHONO (phono jack):
Sensitivity 5 mV,
impedance 47 kilohms

ALL MODEL : MIX MIC (mini jack):
Sensitivity 1 mV,
impedance 600 ohms

Video inputs

ALL MODEL : VIDEO 1 (phono jacks):

US, CND, E, AUS, EA, MY, SP, JE MODEL : VIDEO 2 (phono jacks):
MD/DAT (phono jacks):
1 Vp-p/75 ohms unbalanced,
sync negative

AEP, UK, G, IT MODEL : VIDEO 2/MD/DAT (phono jacks):
1 Vp-p/75 ohms unbalanced,
sync negative

Audio outputs

ALL MODEL : TAPE (phono jacks):
VIDEO 1 (phono jacks):

US, CND, E, AUS, EA, MY, SP, JE MODEL : VIDEO 2 (phono jacks):

US, CND, E, AUS, EA, MY, SP, JE MODEL : MD/DAT (phono jacks):
voltage 260 mV
impedance 2 kilohms

— Continued on next page —

PREAMPLIFIER

SONY®

AEP, UK, G, IT MODEL : VIDEO 2/MD/DAT (phono jacks):
voltage 260mV
impedance 2 kilohms

ALL MODEL : HEADPHONES (stereo mini jack):
accepts headphones of 8 ohms or more
FRONT SPEAKER (phono jack):
impedance 1 kilohm
REAR SPEAKER (phono jack):
accepts speakers of 8 to 16 ohms
CENTER SPEAKER (phono jack):
accepts impedance of 6 to 16 ohms
SUPER WOOFER (phono jack):
impedance 10 kilohms

Video outputs

ALL MODEL : VIDEO 1 (phono jacks):

US, CND, E, AUS, EA, MY, SP, JE MODEL : VIDEO 2 (phono jacks):
MD/DAT (phono jacks):

AEP, UK, G, IT MODEL : VIDEO 2/MD/DAT (phono jacks):
MONITOR OUT (phono jacks):
1 Vp-p/75ohms unbalanced, sync negative

Dimensions
Approx. 225 x 130 x 250 mm (w/h/d)
(8 7/8 x 5 1/8 x 9 7/8 inches)

Mass Approx. 4.1 kg
(9 lb)

General

Power requirements
120V 60 Hz (US, CND MODEL)
220 – 230 V 50/60 Hz
(AEP, G, IT MODEL)
240V 50 Hz (UK MODEL)
110 – 120 V / 220 – 240 V
AC adjustable 50/60 Hz
(E, AUS, EA, MY, SP, JE MODEL)

Power cosumption
80 W (TA-H7900E only)

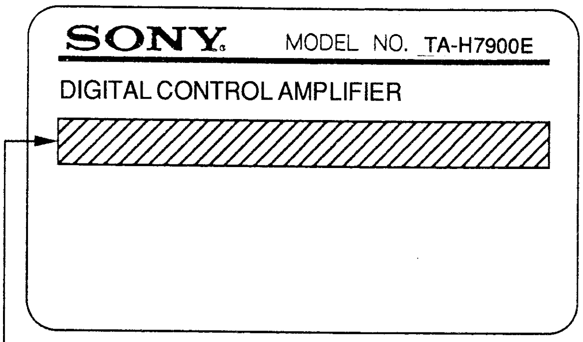
Design and specifications subject to change without notice.

Note :

- CND : Canadian model.
  G : German model.
  IT : Italian model.
  EA : Saudi Arabia model.
  AUS : Australian model.
  SP : Singapore model.
  MY : Malaysia model.
  JE : Tourist model.

– MODEL IDENTIFICATION –

(Specification Label)



- US, CND model : AC : 120V 60Hz 80W
- AEP model : AC : 220 – 230V ~ 50/60Hz 80W
- G, IT model : AC : 220 – 230V ~ 50Hz 80W
- UK model : AC : 240V ~ 50Hz
- E, AUS, EA, MY, SP, JE model : AC : 110 – 120V/220 –240V ~ 50/60Hz 80W

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer: Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

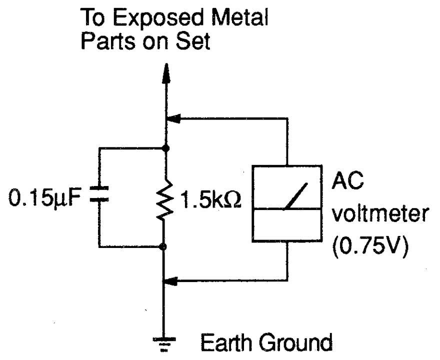


Fig. A. Using an AC voltmeter to check AC leakage.

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- IC201 Digital Signal Processor (CXD2705AQ) 35
- IC301 and IC401 D/A Converter (With Built-in Digital Filter) and Digital Attenuator (TC9270F) 37
- IC601 Master Controller (HD6433388-A17F) 38
- IC605 BPF (XR1092CP) 40
- IC751 Graphic Controller (HD6433258-B09F) 41

6. EXPLODED VIEW
6-1. Case and Chassis Block 42

7. ELECTRICAL PARTS LIST 44

SAFETY-RELATED COMPONENT WARNING!!

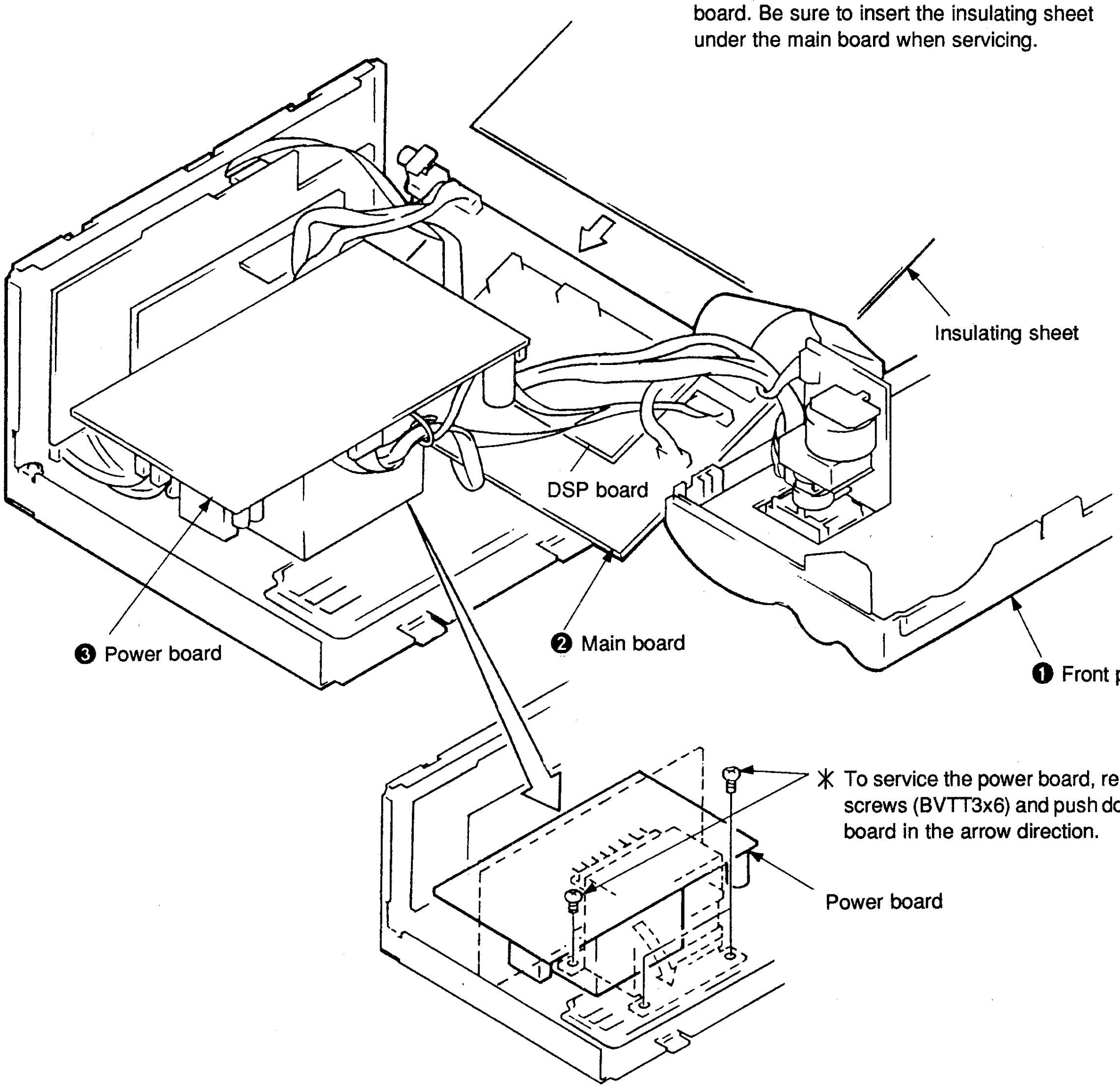
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SECTION 1

SERVICING NOTE


Insulating sheet
DSP board
❸ Power board
❷ Main board
❶ Front panel
Power board

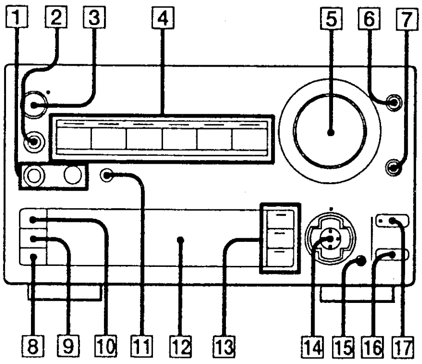
⁎ Open the unit as shown below, and service the main board, DSP boards, and power board. Be sure to insert the insulating sheet under the main board when servicing.

⁎ To service the power board, remove the four screws (BVTT3x6) and push down the power board in the arrow direction.

SECTION 2
GENERAL

This section is extracted from instruction manual.

Preamplifier



ALL MODEL:

1 MIX MIC jack (mini jack) (27)
MIC LEVEL control (27)

2 HEADPHONES jack (stereo mini jack) (28)

3 SYSTEM POWER switch and ON/STANDBY indicator (7)
The indicator remains lit as long as the AC power cord is connected to a wall outlet.

AEP,UK,G,IT MODEL:

4 FUNCTION buttons* (17, 27)
VIDEO 1 (28)
VIDEO 2/MD/DAT (27)
TAPE (17)
CD (13)
TUNER (23)
PHONO (28)

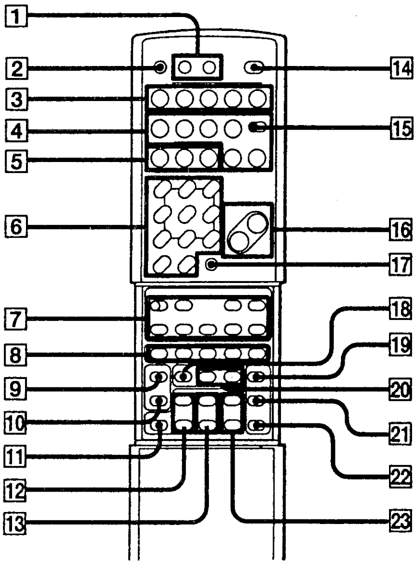
US, CND, E, AUS, EA, MY,SP,JE MODEL:

4 FUNCTION buttons* (17, 27)
VIDEO 1 (28)
VIDEO 2/MD/DAT (27)
TAPE (17)
CD (13)
TUNER (23)
PHONO (28)

ALL MODEL:

5 VOLUME control (7, 23)
6 PROGRAM FUNCTION button (23)
7 DIRECT button* (18)
8 DISPLAY button (19)
9 DSP CONTROL button (19, 20, 23)
10 DSP MENU button (18)
11 KARAOKE PON button* (27)
12 Display window (19)
13 AI operation buttons*
AI PEQ (parametric equalizer) (21)
AI LPC (listening point control) (22)
AI CONDITION (22)
14 CURSOR CONTROL* (18)
15 MEMORY button (21)
16 CANCEL button (18)
17 ENTER button* (18)

Remote commander



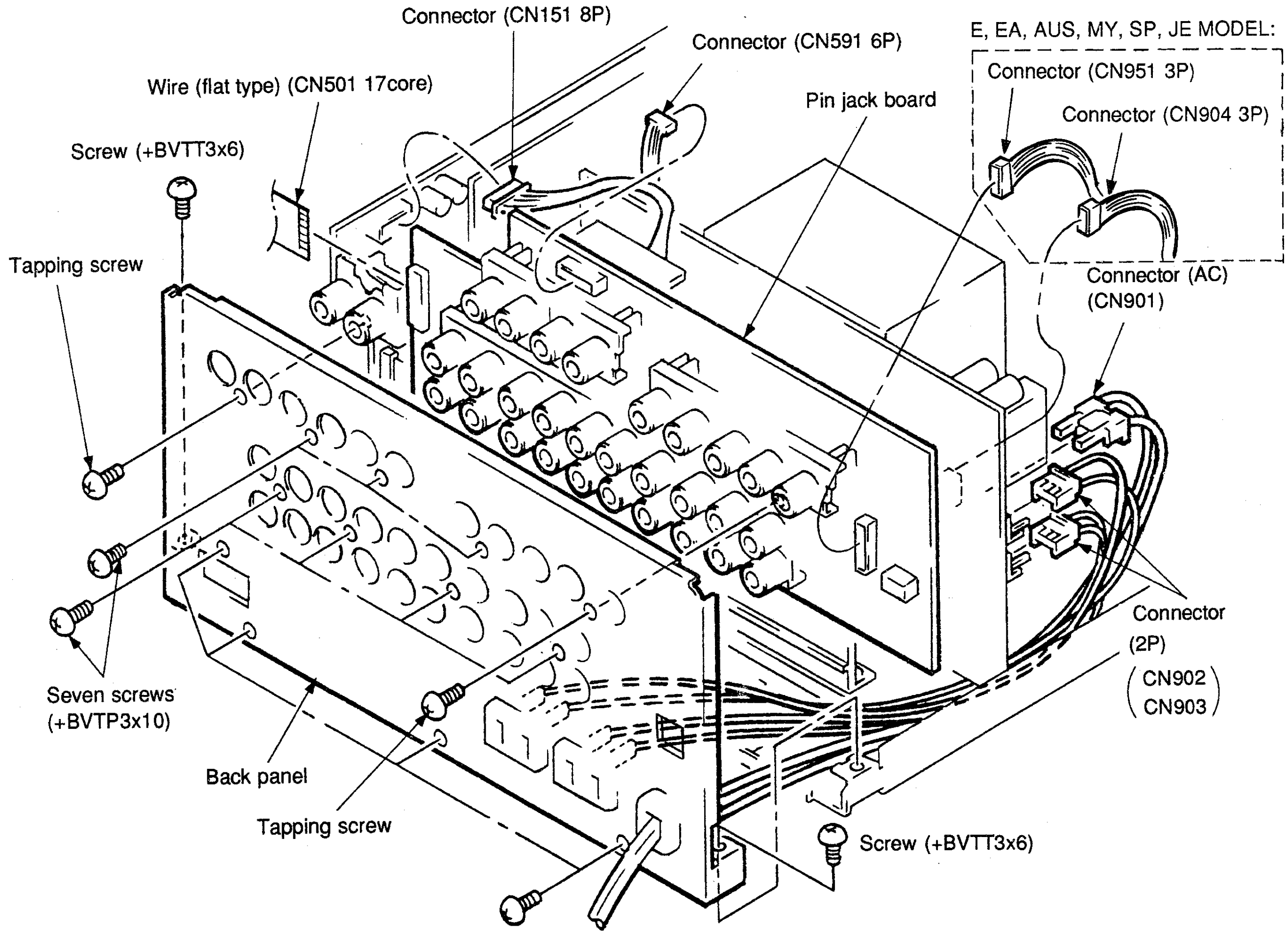
1 TAPE DECK A/B buttons (12)
2 SLEEP button (25)
3 CD/MD operating buttons (7, 16)
4 Cassette deck operating buttons (12)
5 Tuner operating buttons (11)
6 CD/Tuner/LPC numeric buttons (8, 11, 22)
7 VCR operating buttons (28)
8 TV operating buttons (28)
9 AUDIO FUNCTION button (28)
10 VIDEO FUNCTION button (28)
11 TEST TONE button (23)
12 REAR LEVEL +/– buttons (23)
13 CENTER LEVEL +/– buttons (23)
14 SYSTEM POWER switch (7)
15 CD/MD switch (7)
16 VOLUME +/– buttons (7)
17 LPC (Listening point control) button (22)
18 DIRECT button (18)
19 CHECK button (8)
20 MENU +/– button (18)
21 CLEAR button (8)
22 REPEAT button (9)
23 DELAY TIME +/– button (23)

Note :

- CND : Canadian model.
  G : German model.
  IT : Italian model.
  EA : Saudi Arabia model.
  AUS : Australian model.
  SP : Singapore model.
  MY : Malaysia model.
  JE : Tourist model.

SECTION 3
DISASSEMBLY

3-1. BACKPANEL AND PIN JACK BOARD


Connector (CN151 8P)
Connector (CN591 6P)
E, EA, AUS, MY, SP, JE MODEL:
Connector (CN951 3P)
Connector (CN904 3P)
Wire (flat type) (CN501 17core)
Pin jack board
Screw (+BVTT3x6)
Tapping screw
Connector (AC) (CN901)
Connector (2P) (CN902 CN903)
Seven screws (+BVTP3x10)
Back panel
Tapping screw
Screw (+BVTT3x6)
four screws (+BVTP3x10)

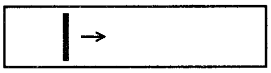
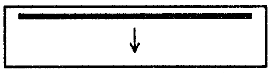
Note :
- EA : Saudi Arabia model.
  AUS : Australian model.
  SP : Singapore model.
  MY : Malaysia model.
  JE : Tourist model.

SECTION 4

TEST MODE

The main unit has a test mode, which is used mainly for checking the DSP, its related functions, and the display. In steps 1 to 4, the waveform of the rear output is the same as that of the front output. Therefore, AMP (IC801) and its related functions can easily be checked using the rear DAC (IC401). Use this function also when the FL or LED display is faulty. (D768 to D771 are parallel connected and will therefore appear slightly dim.)

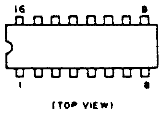
- **Entering the test mode**
  To enter the test mode, press the DISPLAY, MEMORY, and PROGRAM FUNCTION buttons simultaneously (or transfer "FFE9" code from the AUBUS line). Hereafter, each time these three buttons are pressed simultaneously (or "FFE9" code is transferred from the AUBUS line), the test mode will proceed onto the next step.
- **Exiting the test mode**
  Press the SYSTEM POWER button in the test mode. The test mode jumps to step 7, and returns to the STANDBY mode. The test mode can also be exited by resetting the microprocessor such as by pulling out the AC code.

Step	Output level	Display
1	FRONT level: 0 dB, REAR level: –6 dB	"TEST MODE" is displayed for about 4 seconds.
2	FRONT level: +2 dB, REAR level: +6 dB	Scrolls horizontally. All LEDs light. 
3	FRONT level: +4 dB, REAR level: +6 dB	Scrolls vertically. All LEDs light. 
4	FRONT level: +8 dB, REAR level: +6 dB	All displays light. All LEDs light.
5	DOLBY PROLOGIC WIDE mode	Level meter is displayed. All LEDs light.
6	ROCK mode (SURROUND MAX, reverberation check)	DSP menu is displayed. All LEDs light.
7	RAM CLEAR and DIRECT mode	Spectrum analyzer is displayed.

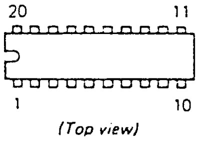
SECTION 5
DIAGRAMS

5-1. SEMICONDUCTOR LEAD LAYOUTS

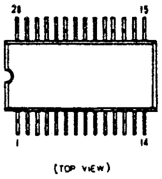
SN761200N


16
9
1
8
(TOP VIEW)

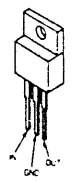
XR1092CP


20
11
1
10
(Top view)

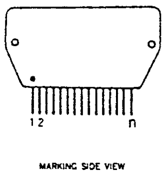
AK5369VS
TC9270F


28
15
1
14
(TOP VIEW)

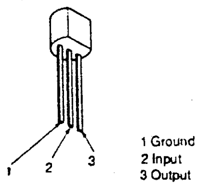
M5F78M05L
M5F78M12L
TA78057S-LC



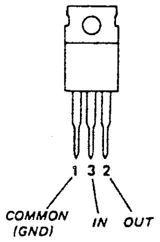
STK4122MK2


1 2
n
MARKING SIDE VIEW

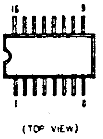
NJM79L05A


1
2
3
1 Ground
2 Input
3 Output

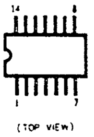
M5F79M12L


1 3 2
COMMON (GND)
IN
OUT

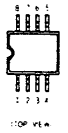
SC027MG051BF


16
9
1
8
(TOP VIEW)

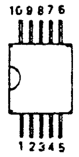
SC027MG066BF


14
8
1
7
(TOP VIEW)

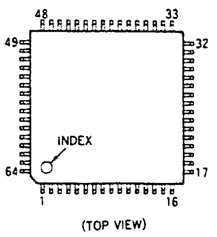
M51953BFP
M5218AFP
NJM4560M
µPC4570G2


8 7 6 5
1 2 3 4
(TOP VIEW)

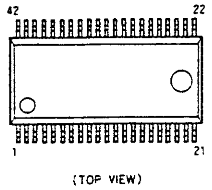
LB1638M


10 9 8 7 6
1 2 3 4 5

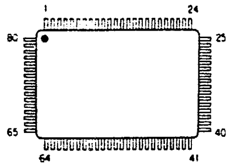
HD6433258-B09F


48
33
49
32
INDEX
64
17
1
16
(TOP VIEW)

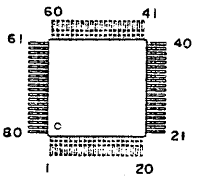
M5M411664


42
22
1
21
(TOP VIEW)

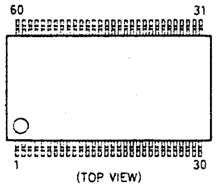
CXD2705AQ


1
24
80
25
65
40
64
41

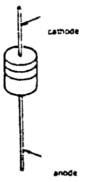
HD6433388-A17F


60
41
61
40
80
21
1
20

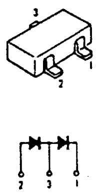
SN755705FT


60
31
1
30
(TOP VIEW)

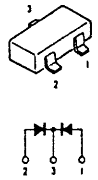
11ES2
UZP-27BB


cathode
anode

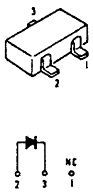
1SS226



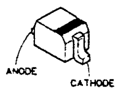
DCB010



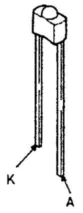
UZM-36Z
UZM5.1B



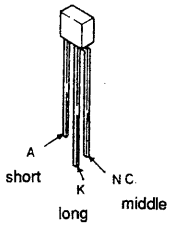
1SS352


ANODE
CATHODE

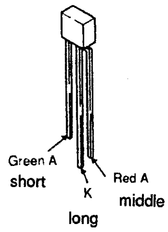
SEL5220S
SEL5221S



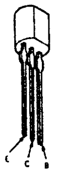
SML1260S


A
short
K
long
N.C.
middle

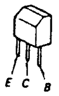
SML12460S


Green A
short
K
long
Red A
middle

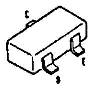
2SB1116-K



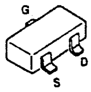
2SC2958-KLM



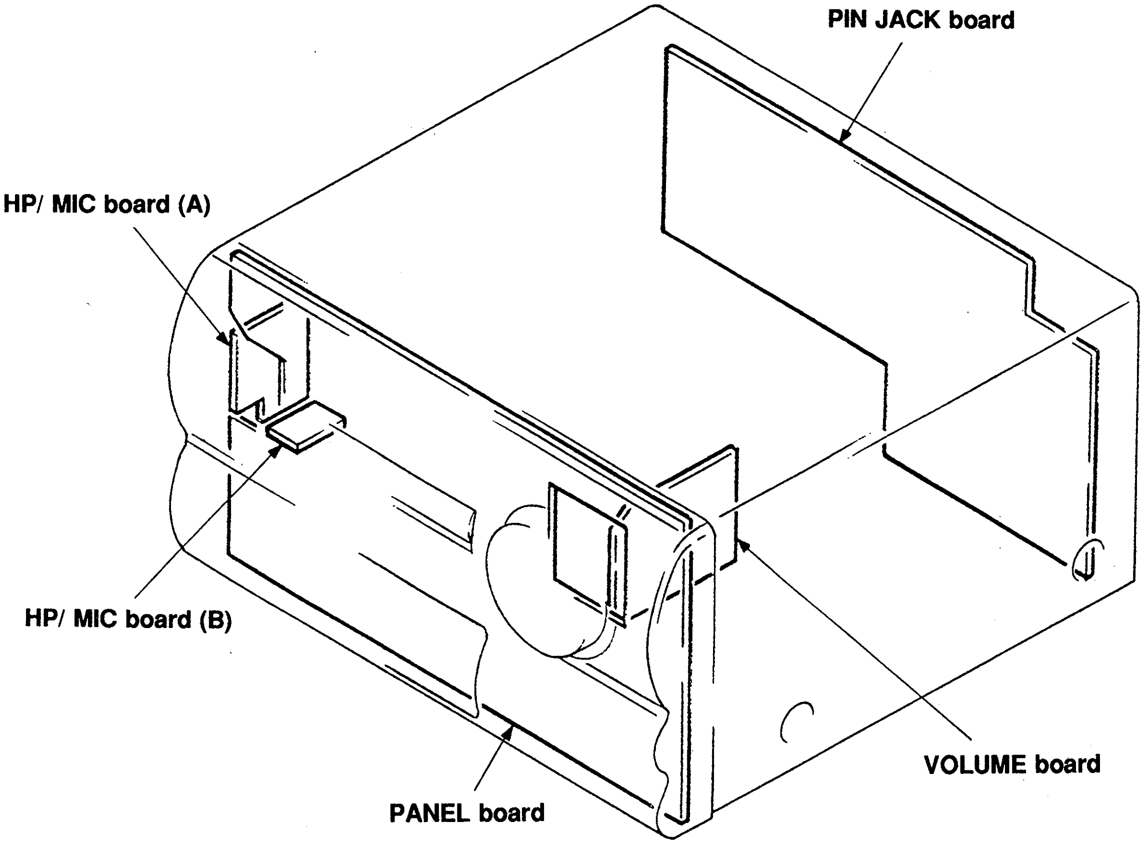
2SA1235-F
2SA1344
2SA1602-F
2SC3396
2SC3398
2SC4154-F
2SC3624A-L15

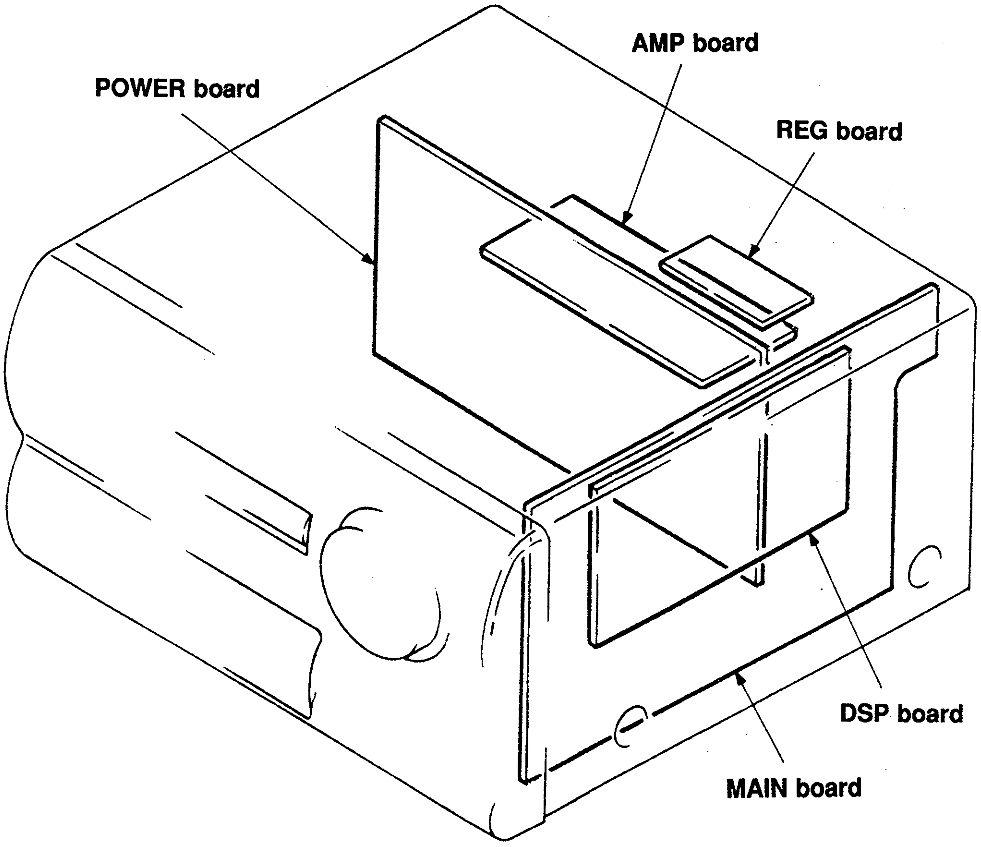


2SK208-GR3

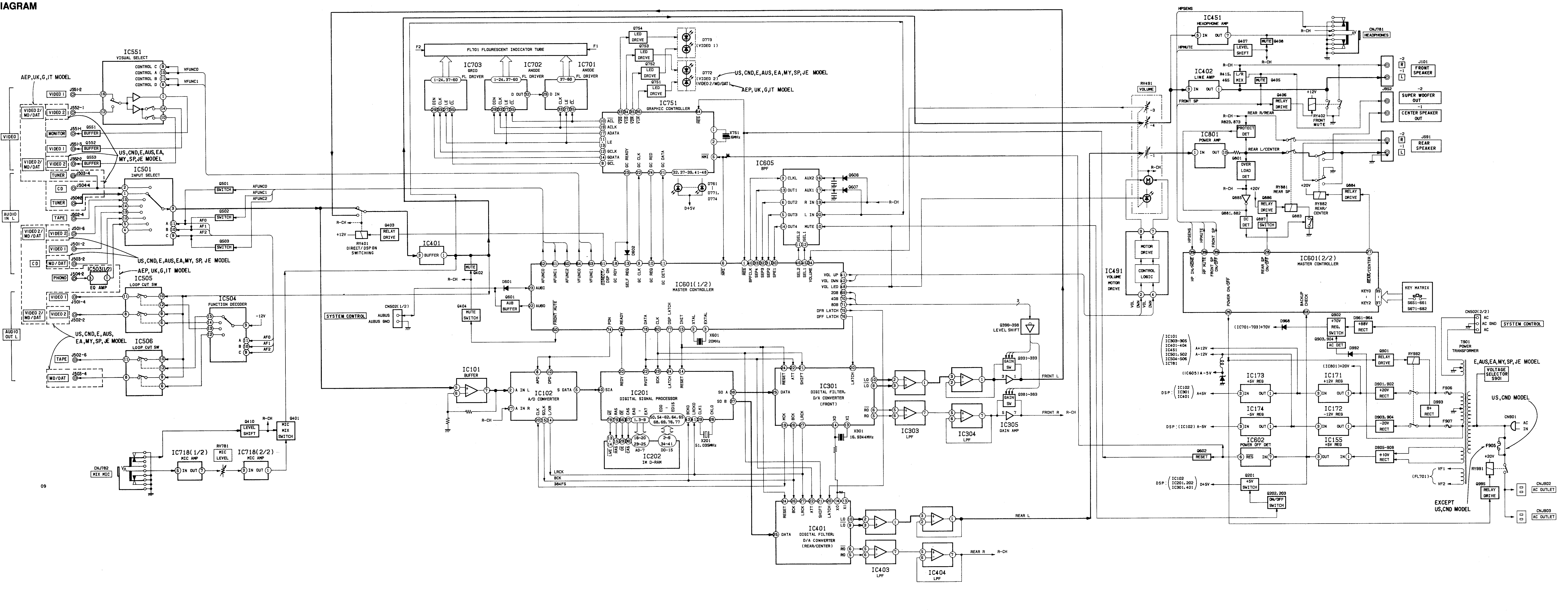


5-2. CIRCUIT BOARDS LOCATION


PIN JACK board
HP/ MIC board (A)
HP/ MIC board (B)
VOLUME board
PANEL board


AMP board
POWER board
REG board
DSP board
MAIN board

5-3. BLOCK DIAGRAM


IC551
VISUAL SELECT
CONTROL C
CONTROL A
CONTROL B
CONTROL D
VFUNC0
VFUNC1
AEP,UK,G,IT MODEL
VIDEO
VIDEO 1
J551-2
VIDEO 2/MD/DAT
VIDEO 2
J552-1
MONITOR
J551-1
Q551
BUFFER
J551-3
Q552
J552-2
Q553
US,CND,E,AUS,EA,MY,SP,JE MODEL
AUDIO IN L
TUNER
J503-4
CD
J504-4
J504-2
TAPE
J502-4
J501-6
J501-2
MD/DAT
J503-2
PHONO
J504-2
IC503(1/2)
EQ AMP
US,CND,E,AUS,EA,MY, SP, JE MODEL
AEP,UK,G,IT MODEL
IC501
INPUT SELECT
Q501
SWITCH
AFUNC0
AFUNC1
AFUNC2
Q502
AF0
AF1
AF2
Q503
IC505
LOOP CUT SW
AUDIO OUT L
J501-4
J502-2
US,CND,E,AUS,EA,MY,SP,JE MODEL
IC506
LOOP CUT SW
J502-6
J503-4
IC504
FUNCTION DECODER
-12V
R-CH
+12V
RY401
DIRECT/DSP ON SWITCHING
Q403
RELAY DRIVE
IC401
BUFFER
MUTE
Q402
Q404
MUTE SWITCH
SYSTEM CONTROL
CN502(1/2)
AUBUS
AUBUS GND
D601
Q601
AUB BUFFER
Q410
LEVEL SHIFT
Q401
MIC MIX SWITCH
CNJ782
MIX MIC
IC718(1/2)
MIC AMP
RV781
MIC LEVEL
IC718(2/2)
MIC AMP
09
F2
FL701 FLOURESCENT INDICATOR TUBE
F1
IC703
GRID FL DRIVER
IC702
ANODE FL DRIVER
IC701
ANODE FL DRIVER
1-24,37-60
37-60
DIN
CLK
LE
GL
D OUT
D IN
Q754
LED DRIVE
Q753
Q752
Q751
D773
(VIDEO 1)
D772
(VIDEO 2)
(VIDEO 2/MD/DAT)
US,CND,E,AUS,EA,MY,SP,JE MODEL
AEP,UK,G,IT MODEL
IC751
GRAPHIC CONTROLLER
V2G
V1G
V2R
V1R
RES
ACL
ACLK
ADATA
GCLK
GDATA
GCL
GC READY
GC CLK
GC RED
GC DATA
X751
16MHz
NMI
32,37-39,41-48
D761
D771,
D774
D+5V
IC605
BPF
CLKL
OUT1
OUT2
OUT3
OUT4
AUX2
AUX1
R IN
L IN
MUTE
SEL2
SEL1
Q608
Q607
D602
IC601(1/2)
MASTER CONTROLLER
DIRECT/DSP ON
GC RDY
SELF REQ
GC DETA
BPFCLK
SEP4
SEP3
SEP2
SPE1
VOLUME
VOL UP
VOL DWN
VOL LED
2DB
4DB
8DB
DFR LATCH
DFF LATCH
AUBI
AUBO
FRONT MUTE
PON
READY
DATA
DSP LATCH
INIT
XTAL
EXTAL
X601
20MHz
IC101
BUFFER
IC102
A/D CONVERTER
A IN L
A IN R
S DATA
APD
DPD
SCLK
L/XR
IC201
DIGITAL SIGNAL PROCESSOR
SIA
REDY
RVDT
SCK
LATCH
RESET
SO A
SO B
WE
RAS
OE
CAS
EA0 - EA7
ED0 - ED15
BCKO
LRCKO
CLK1
CKLO
1,3-9
50,54-62,64,65
68,69,76,77
X201
51.035MHz
IC202
1M D-RAM
16-20
23-25
A0-7
2-9
34-41
D0-15
LRCK
BCK
384FS
IC301
DIGITAL FILTER, D/A CONVERTER (FRONT)
ATT
SHIFT
MCK
XO
XI
LO
RO
X301
16.9344MHz
IC303
LPF
IC304
LPF
Q396~398
LEVEL SHIFT
GAIN SW
Q331~333
Q381~383
IC305
GAIN AMP
FRONT L
FRONT R
IC401
DIGITAL FILTER; D/A CONVERTER (REAR/CENTER)
IC403
LPF
IC404
LPF
REAR L
REAR R
RV491
VOLUME
IC491
VOLUME MOTOR DRIVE
MOTOR DRIVE
CONTROL LOGIC
VOL DWN
HPSENS
IC451
HEADPHONE AMP
IN
OUT
HPMUTE
Q407
LEVEL SHIFT
Q408
CNJ781
HEADPHONES
IC402
LINE AMP
FRONT SP
R415, 465
L/R MIX
Q405
Q406
RELAY DRIVE
RY402
FRONT MUTE
J101
FRONT SPEAKER
J952
SUPER WOOFER OUT
CENTER SPEAKER OUT
REAR R/REAR
R823, 873
PROTECT DET
IC801
POWER AMP
REAR L/CENTER
Q801
OVER LOAD DET
+20V
Q885
Q886
RY881
REAR SP
RY882
REAR/CENTER
Q884
Q881, 882
DC DET
Q887
SWITCH
Q883
J591
REAR SPEAKER
IC601(2/2)
MASTER CONTROLLER
HP IN/NONE
HP MUTE
FRONT SP ON/OFF
REAR SP ON/OFF
REAR/CENTER
POWER ON/OFF
BACKUP CHECK
KEY0 - KEY2
KEY MATRIX
S651-661
S671-682
Q902
+70V REG. SWITCH
D961-964
+88V RECT
D968
(IC701-703)+70V
Q903, 904
AC DET
D992
Q901
RELAY DRIVE
RY992
IC101
IC303-305
IC401-404
IC451
IC501, 502
IC504-506
IC781
A+12V
A-12V
(IC605)A-5V
(IC801)+20V
IC173
+5V REG
IC171
+12V REG
D901, 902
+20V RECT
DSP:
IC102
IC301
IC401
A+5V
IC174
-5V REG
IC172
-12V REG
D903, 904
-20V RECT
DSP:(IC102) A-5V
D993
B+ RECT
F906
F907
IC602
POWER OFF DET
Q602
RESET
IC155
+5V REG
D905-908
+10V RECT
Q201
+5V SWITCH
IC201, 202
IC301, 401
D+5V
Q202, 203
ON/OFF SWITCH
(FL701)
VF1
VF2
CN502(2/2)
AC
AC GND
SYSTEM CONTROL
T901
POWER TRANSFORMER
E,AUS,EA,MY,SP,JE MODEL
VOLTAGE SELECTOR S901
US,CND MODEL
CN901
AC IN
F905
RY991
Q995
CNJ902
AC OUTLET
CNJ903
EXCEPT US,CND MODEL

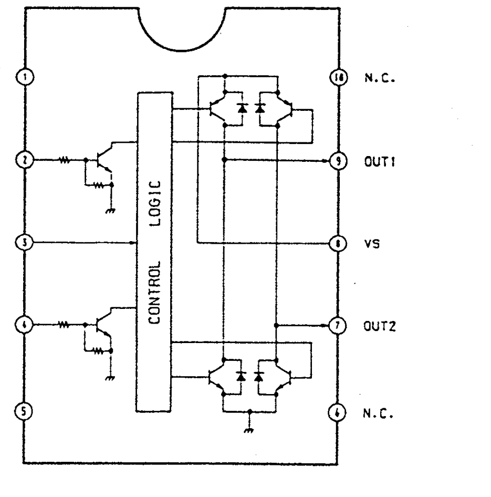
5-4. SCHEMATIC DIAGRAM — MAIN SECTION —

- See page 38 for IC Pin Functions. (IC601, IC605)

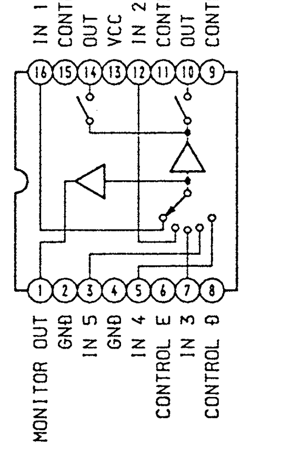
[MAIN BOARD]
[PIN JACK BOARD(1/2)]
[AMP BOARD]
[PINJACK BOARD(2/2)]
[POWER BOARD]
[VOLUME BOARD]
[REG BOARD]
(See Page 25)
(See Page 26)
(See Page 26)
(See Page 26)
(See Page 26)
(See Page 31)
PANEL BOARD CN701
IC601 SYSTEM CONTROL
IC602
IC605
IC173
IC174
IC401 LINE AMP
IC402 LINE AMP
IC451 MIC AMP
IC491
IC501 FUNCTION SELECT(L ch)
IC502 FUNCTION SELECT(R ch)
IC503 EQUALIZER
IC504 FUNCTION DECODER
IC505
IC506
IC551 VISUAL SELECT
IC155
IC171
IC172
IC801 POWER AMP
Q401,451 MUTING
Q403 RELAY DRIVE
Q404 MUTE SWITCH
Q405 BUFFER
Q406 RELAY DRIVE
Q407 MUTE SWITCH
Q409 INVERTER
Q607,608 BUFFER
Q201 B+ SWITCH
Q202,203 SWITCH
Q501-503 INVERTER
Q551-553 SWITCH
Q850,851 OVER CURR DET
Q885 BUFFER
Q886 RELAY B+ SWITCH
Q887 RELAY DRIVE
Q881,882 DC DETECT
Q883,884 RELAY DRIVE
Q901 RELAY DRIVE
Q902 +12V REG
Q903,904 FL DISPLAY MUTE
Q995 RELAY DRIVE
SUPER WOOFER OUT
CENTER SPEAKER OUT
REAR SPEAKER
SYSTEM CONTROL
FRONT SPEAKER
VOLTAGE SELECTOR
US,CND MODEL
EXCEPT US,CND MODEL
AEP,UK,G,IT MODEL
US,CND,E,AUS,EA,MY,SP,JE MODEL
VIDEO IN
VIDEO OUT
AUDIO IN R
AUDIO IN R
AUDIO OUT L
AUDIO OUT R
VIDEO 1
VIDEO 2
MONITOR
VIDEO 3
TAPE
MD/DAT
TUNER
CD
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
A B C D E F G H I J K L M N

- IC Block Diagrams

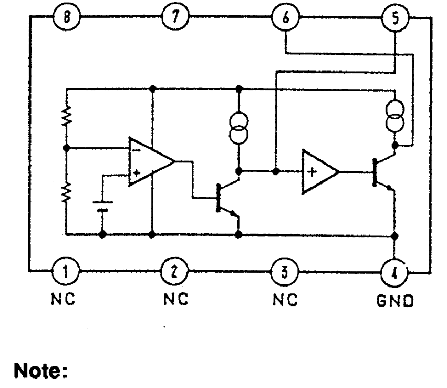
IC491 LB1638M


GND
IN1
VCC
IN2
GND
N.C.
OUT1
VS
OUT2
N.C.
CONTROL LOGIC

IC551 BA7625


IN 1
CONTROL A
OUT 1
VCC
IN 2
CONTROL B
OUT 2
CONTROL C
MONITOR OUT
GND
IN 5
GND
IN 4
CONTROL E
IN 3
CONTROL D

IC602 M51953BFP


NC
Vcc
OUT
Cd
NC
NC
NC
GND

Note:

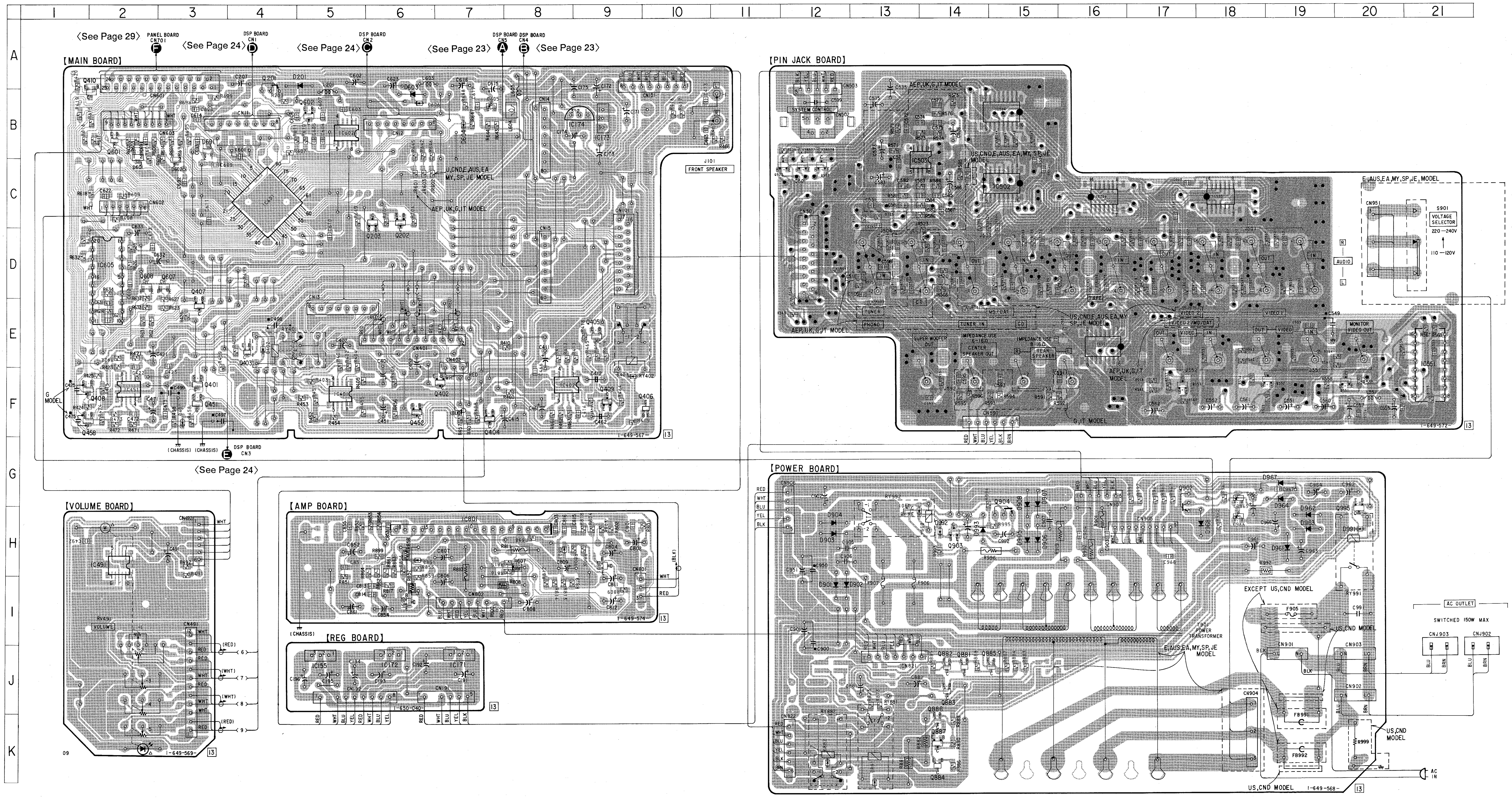
- All capacitors are in µF unless otherwise noted. pF:µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- ▭ : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	**Note:** Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- ▬ : B+ Line
- ▬ : B– Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  - ⇨ : FM
  - ⇨ : REC
  - ▷ : MIC
- CND : Canadian model.
  G : German model.
  IT : Italian model.
  EA : Saudi Arabia model.
  AUS : Australian model.
  SP : Singapore model.
  MY : Malaysia model.
  JE : Tourist model.

5-5. PRINTED WIRING BOARDS — MAIN SECTION —

- See page 8 for Semiconductor Lead Layouts.
- See page 9 for Circuit Boards Location.



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
A B C D E F G H I J K
〈See Page 29〉 PANEL BOARD CN701 F
〈See Page 24〉 DSP BOARD CN1 D
〈See Page 24〉 DSP BOARD CN2 C
〈See Page 23〉 DSP BOARD CN5 A
DSP BOARD CN4 B 〈See Page 23〉
[MAIN BOARD]
[PIN JACK BOARD]
J101 FRONT SPEAKER
G MODEL
(CHASSIS) (CHASSIS) E DSP BOARD CN3
〈See Page 24〉
1-649-567-
1-649-572-
[VOLUME BOARD]
[AMP BOARD]
[REG BOARD]
[POWER BOARD]
1-649-569-
1-649-574-
1-650-040-
1-649-568-
E,AUS,EA,MY,SP,JE MODEL
S901 VOLTAGE SELECTOR 220-240V 110-120V
EXCEPT US,CND MODEL
US,CND MODEL
E,AUS,EA,MY,SP,JE MODEL
T901 POWER TRANSFORMER
AC OUTLET
SWITCHED 150W MAX
CNJ903 CNJ902
AC IN

• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D201	A-5	IC505	C-18
D401	F-3	IC506	C-16
D402	E-4	IC551	E-21
D403	F-9	IC601	C-4
D601	C-2	IC602	B-5
D602	C-3	IC605	D-2
D603	A-6	IC801	H-7
D604	B-7		
D605	B-7	Q201	A-4
D606	B-6	Q202	D-6
D691	B-3	Q203	D-6
D801	H-8	Q401	F-3
D851	H-6	Q402	F-7
D881	K-13	Q403	E-4
D882	K-12	Q404	F-7
D901	I-12	Q405	E-9
D902	I-13	Q406	F-10
D903	H-12	Q407	D-3
D904	H-12	Q408	F-1
D905	H-15	Q409	F-9
D906	H-15	Q410	A-2
D907	G-15	Q451	F-3
D908	G-15	Q452	F-6
D961	H-19	Q458	F-1
D962	H-19	Q501	C-12
D963	H-19	Q502	C-12
D964	H-19	Q503	F-12
D965	H-18	Q551	F-20
D966	H-18	Q552	F-19
D967	G-19	Q553	F-18
D968	H-18	Q601	B-2
D991	H-20	Q602	B-5
D992	H-14	Q607	D-3
D993	H-14	Q608	D-2
D994	H-14	Q801	H-9
		Q851	I-9
IC155	J-5	Q881	J-14
IC171	J-7	Q882	J-14
IC172	J-6	Q883	J-14
IC173	B-9	Q884	K-14
IC174	B-9	Q885	J-15
IC401	F-5	Q886	J-14
IC402	F-8	Q887	K-14
IC451	F-2	Q901	H-13
IC491	H-2	Q902	G-17
IC501	E-16	Q903	H-14
IC502	C-15	Q904	G-15
IC503	C-14	Q995	H-20
IC504	B-15		

Note:

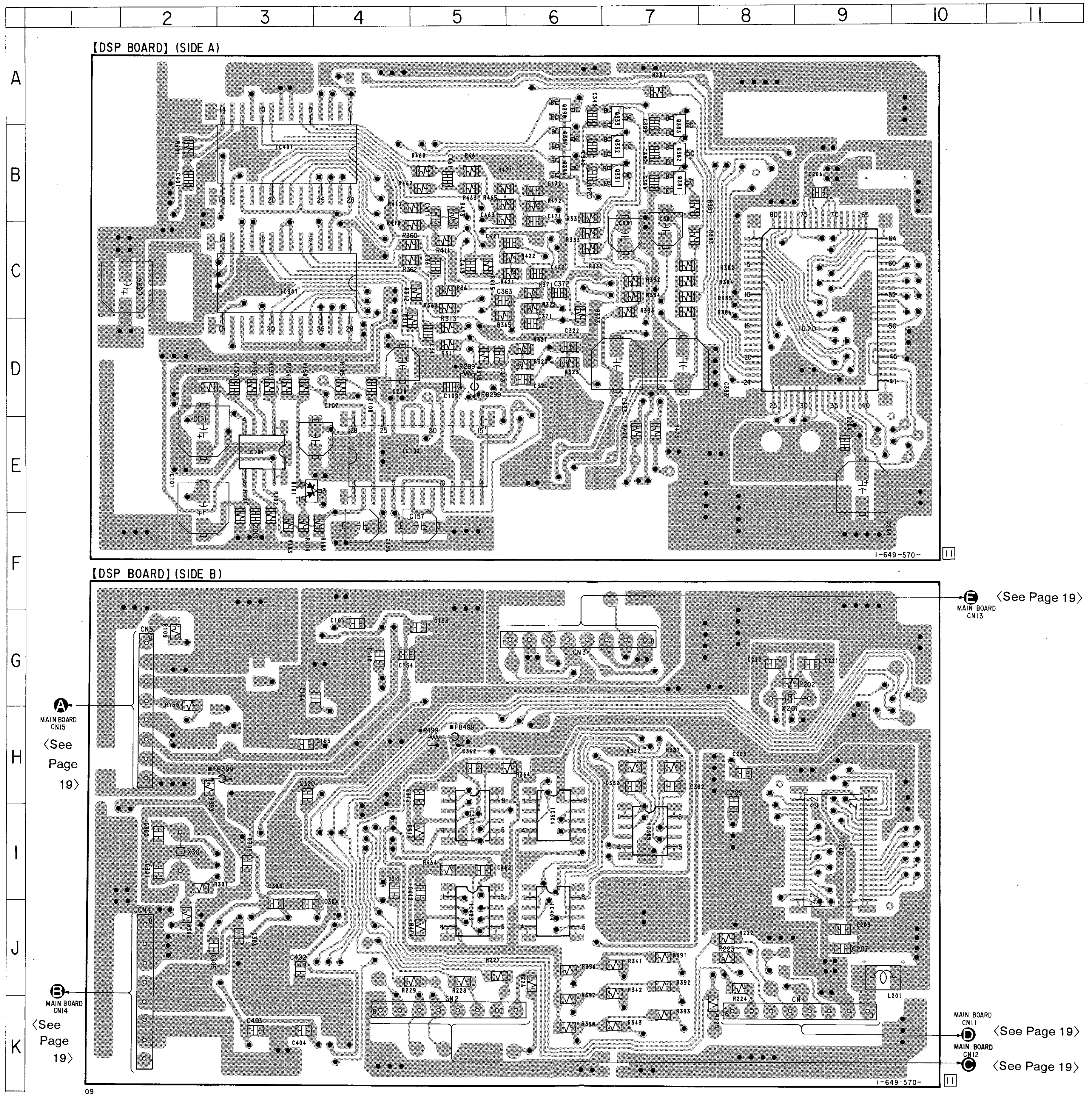
- o—— : parts extracted from the component side.
- •—— : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- △ : internal component.
- ▨ : Pattern from the side which enable seeing.
- ▨ : Pattern of the rear side.
- CND : Canadian model.
  G : German model.
  IT : Italian model.
  EA : Saudi Arabia model.
  AUS : Australian model.
  SP : Singapore model.
  MY : Malaysia model.
  JE : Tourist model.

5-6. PRINTED WIRING BOARD — DSP SECTION —

- See page 8 for Semiconductor Lead Layouts.
- See page 9 for Circuit Boards Location.

• Semiconductor Location

Ref. No.	Location
D101	E-3
IC101	E-3
IC102	E-5
IC201	D-9
IC202	I-9
IC301	C-3
IC303	I-5
IC304	I-6
IC305	I-7
IC401	B-3
IC403	J-5
IC404	J-6
Q331	B-7
Q332	B-7
Q333	A-7
Q381	B-7
Q382	B-7
Q383	B-7
Q396	B-6
Q397	B-6
Q398	A-6

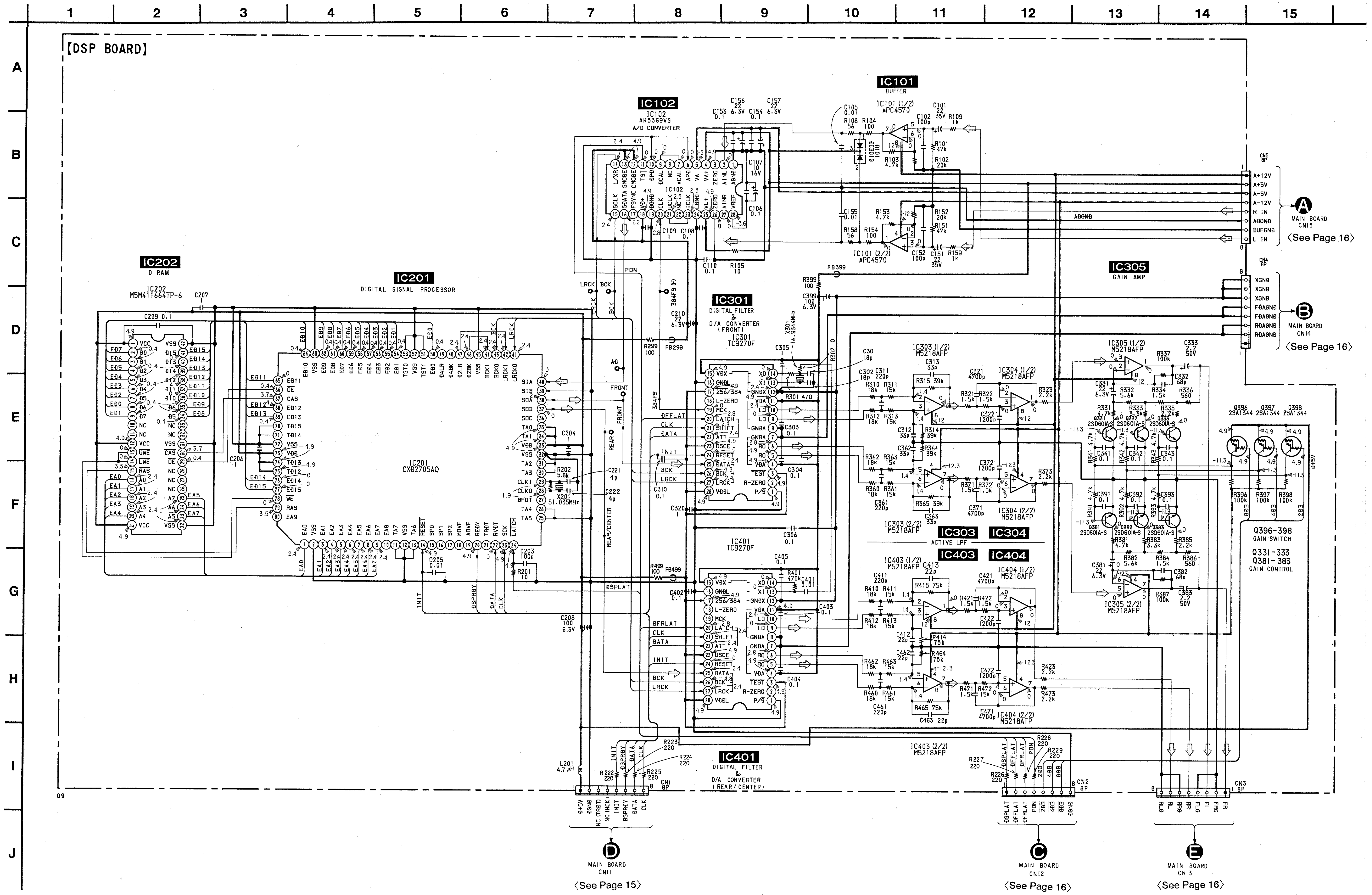

1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
[DSP BOARD] (SIDE A)
IC401
IC301
IC101
IC102
IC201
1-649-570-
11
[DSP BOARD] (SIDE B)
A
MAIN BOARD CN15
⟨See Page 19⟩
B
MAIN BOARD CN14
⟨See Page 19⟩
E
MAIN BOARD CN13
⟨See Page 19⟩
MAIN BOARD CN11
D
⟨See Page 19⟩
MAIN BOARD CN12
C
⟨See Page 19⟩
CN5
CN4
CN3
CN2
CN1
X301
L201
1-649-570-
11
09

Note:

- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▨ : Pattern from the side which enable seeing. (The other layer's patterns are not indicated.)

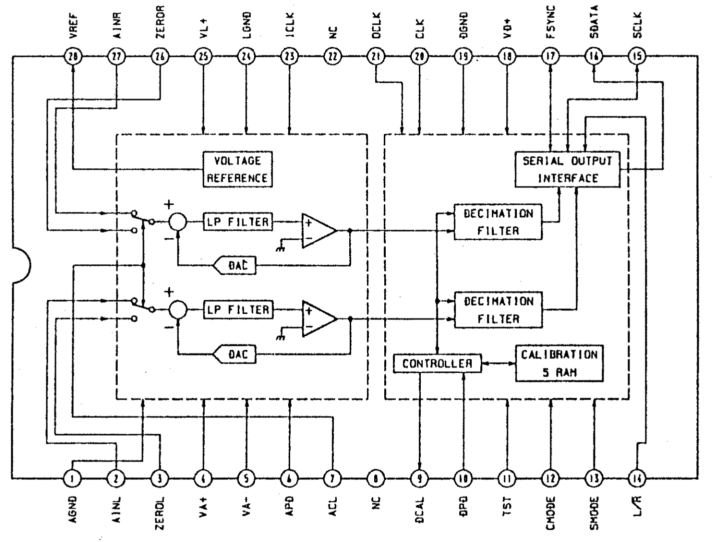
5-7. SCHEMATIC DIAGRAM — DSP SECTION —

- See page 34 for IC Pin Functions.(IC102, IC201, IC301, IC401)

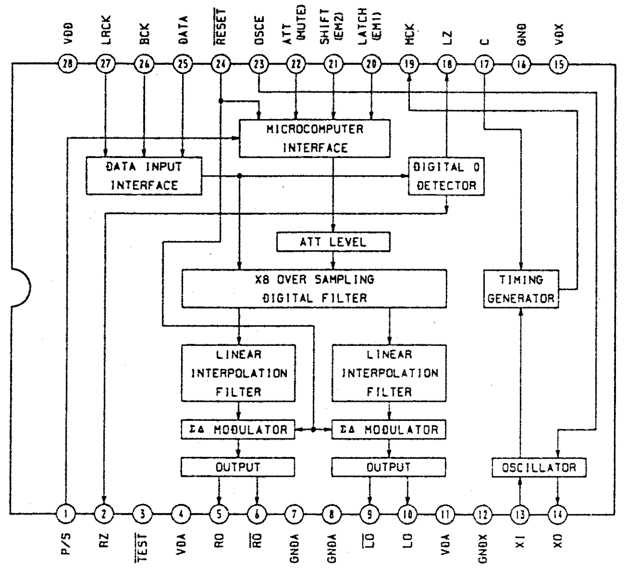

[DSP BOARD]
IC101 BUFFER
IC101 (1/2) μPC4570
IC101 (2/2) μPC4570
IC102 AK5369VS A/D CONVERTER
IC202 D RAM
IC202 M5M41T664TP-6
IC201 DIGITAL SIGNAL PROCESSOR
IC201 CXD2705AQ
IC301 DIGITAL FILTER & D/A CONVERTER (FRONT)
IC301 TC9270F
IC401 TC9270F
IC401 DIGITAL FILTER & D/A CONVERTER (REAR/CENTER)
IC303 IC304 ACTIVE LPF
IC403 IC404
IC303 (1/2) M5218AFP
IC304 (1/2) M5218AFP
IC303 (2/2) M5218AFP
IC304 (2/2) M5218AFP
IC403 (1/2) M5218AFP
IC404 (1/2) M5218AFP
IC403 (2/2) M5218AFP
IC404 (2/2) M5218AFP
IC305 GAIN AMP
IC305 (1/2) M5218AFP
IC305 (2/2) M5218AFP
Q396-398 GAIN SWITCH
Q331-333 Q381-383 GAIN CONTROL
CN5 8P
A+12V
A+5V
A-5V
A-12V
R IN
AGGND
BUFGND
L IN
A MAIN BOARD CN15 (See Page 16)
CN4 8P
XGND
XGND
XGND
FDAGND
FDAGND
RDAGND
RDAGND
B MAIN BOARD CN14 (See Page 16)
CN1 8P
D+5V
DGND
NC (FMST)
NC (MCK)
INIT
DSPRDY
DATA
CLK
D MAIN BOARD CN11 (See Page 15)
CN2 8P
DSPLAT
DFFLAT
DRFLAT
PON
20B
40B
80B
DGND
C MAIN BOARD CN12 (See Page 16)
CN3 8P
RLG
RR
FLG
FR
FL
FRB
FR
E MAIN BOARD CN13 (See Page 16)
X201 51.035MHz
X301 16.9344MHz
L201 4.7μH

- IC Block Diagrams

IC102 AK5369VS


VREF
AINR
ZEROR
VL+
LGND
ICLK
NC
OCLK
CLK
DGND
VD+
FSYNC
SDATA
SCLK
VOLTAGE REFERENCE
LP FILTER
DAC
LP FILTER
DAC
SERIAL OUTPUT INTERFACE
DECIMATION FILTER
DECIMATION FILTER
CONTROLLER
CALIBRATION S RAM
AGND
AINL
ZEROL
VA+
VA-
APD
ACL
NC
BCAL
BPD
TST
CMODE
SMODE
L/R

IC301, 401 TC9270F


VDD
LRCK
BCK
DATA
RESET
DSCE
ATT MUTE
SHIFT IN
LATCH
MCK
LZ
C
GNDD
VOX
MICROCOMPUTER INTERFACE
DATA INPUT INTERFACE
DIGITAL 0 DETECTOR
ATT LEVEL
X8 OVER SAMPLING DIGITAL FILTER
TIMING GENERATOR
LINEAR INTERPOLATION FILTER
LINEAR INTERPOLATION FILTER
ΣΔ MODULATOR
ΣΔ MODULATOR
OUTPUT
OUTPUT
OSCILLATOR
P/S
RZ
TEST
VDA
RO
RO
GNDA
LO
LO
VDA
GNDX
XI
XO

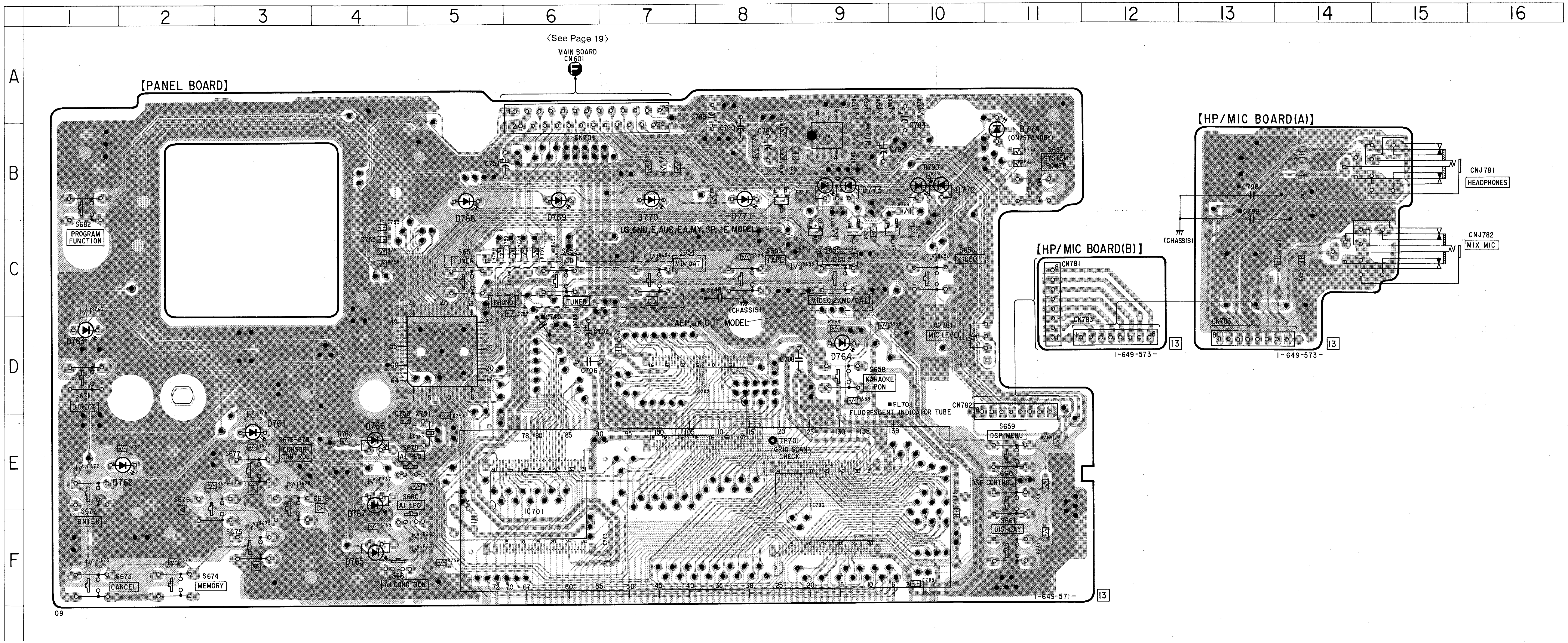
Note:

- All capacitors are in μF unless otherwise noted. pF:μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- ▬▬: B+ Line
- ═══: B– Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
- The voltages of IC202, IC303 to IC305, IC403, and IC404 of the DSP board can be checked with the through hole on pins connected to the IC201. They can be measured easily by using five extension cables (J-8000-027-A) and opening the board.

5-8. PRINTED WIRING BOARDS
— PANEL SECTION —
- See page 8 for Semiconductor Lead Layouts.
- See page 9 for Circuit Boards Location.

• Semiconductor Location

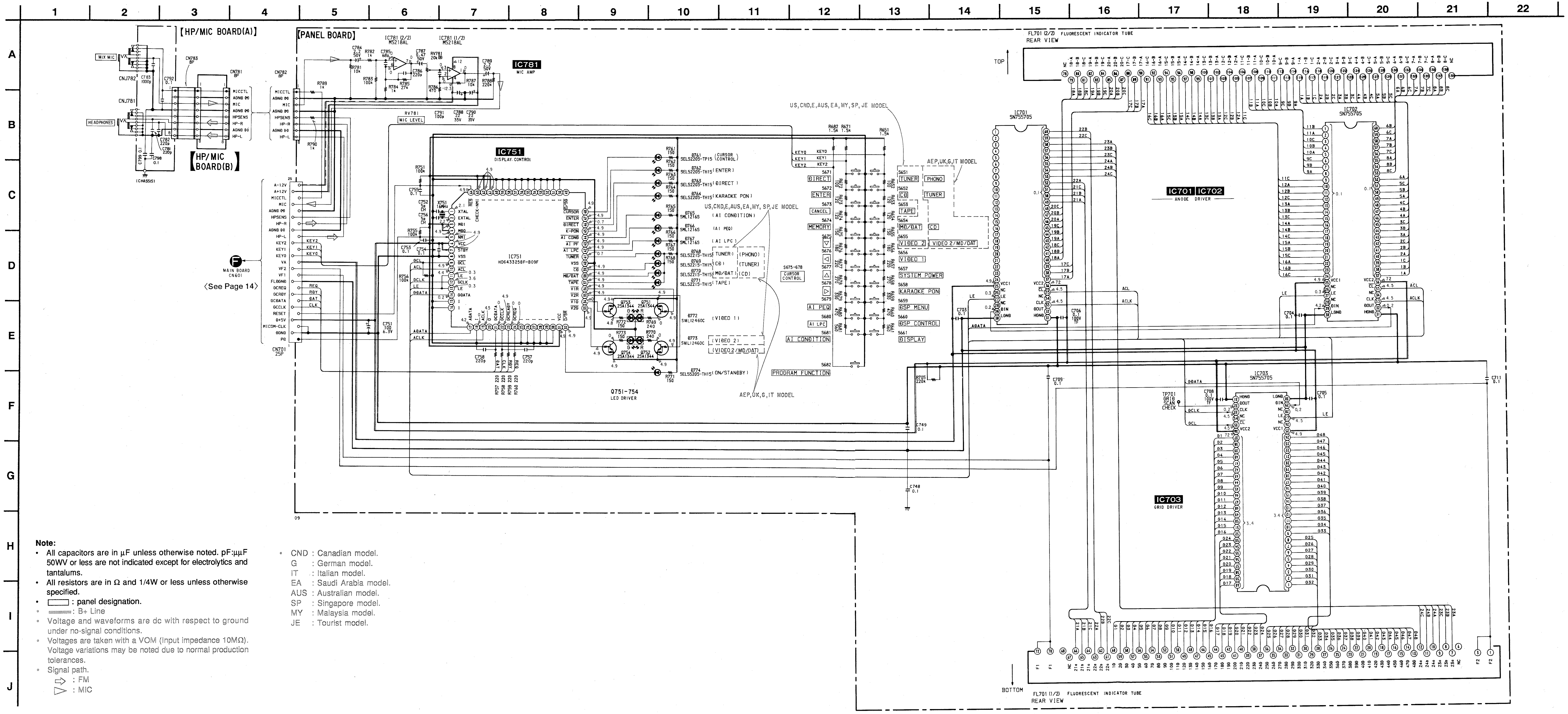
Ref. No.	Location
D761	E-3
D762	E-2
D763	D-1
D764	D-9
D765	F-4
D766	E-4
D767	F-4
D768	B-5
D769	B-6
D770	B-7
D771	B-8
D772	B-10
D773	B-9
D774	B-11
IC701	F-6
IC702	D-8
IC703	F-9
IC751	D-5
IC781	B-9
Q751	B-9
Q752	C-9
Q753	C-9
Q754	C-10


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
〈See Page 19〉
MAIN BOARD
CN601
F
[PANEL BOARD]
CN701
[HP/MIC BOARD(A)]
[HP/MIC BOARD(B)]
CNJ781
HEADPHONES
CNJ782
MIX MIC
CN781
CN783
(CHASSIS)
I-649-573-
13
D774
(ON/STANDBY)
S657
SYSTEM POWER
D768
D769
D770
D771
D773
D772
S682
PROGRAM FUNCTION
US,CND,E,AUS,EA,MY,SP,JE MODEL
S651
TUNER
S652
CD
S654
MD/DAT
S653
TAPE
S655
VIDEO 2
S656
VIDEO 1
PHONO
TUNER
CD
VIDEO 2/MD/DAT
AEP,UK,G,IT MODEL
(CHASSIS)
IC751
D763
RV781
MIC LEVEL
D764
S658
KARAOKE PON
S671
DIRECT
D761
S675-678
CURSOR CONTROL
D766
S679
AI PEQ
S680
AI LPC
S681
AI CONDITION
D767
D765
D762
S672
ENTER
S676
S677
S675
S678
S673
CANCEL
S674
MEMORY
■FL701
FLUORESCENT INDICATOR TUBE
CN782
TP701
GRID SCAN CHECK
IC701
S659
DSP MENU
S660
DSP CONTROL
S661
DISPLAY
I-649-571-
13
09

Note:
- ○—— : parts extracted from the component side.
- ●—— : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▨ : Pattern from the side which enable seeing.
- ▨ : Pattern of the rear side.
- CND : Canadian model.
  - G : German model.
  - IT : Italian model.
  - EA : Saudi Arabia model.
  - AUS : Australian model.
  - SP : Singapore model.
  - MY : Malaysia model.
  - JE : Tourist model.

5-9. SCHEMATIC DIAGRAM — PANEL SECTION —

• See page 41 for IC Pin Functions. (IC751)



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
A B C D E F G H I J
[HP/MIC BOARD(A)]
MIX MIC
HEADPHONES
CN783 8P
CN781 8P
CNJ782
CNJ781
(CHASSIS)
HP/MIC BOARD(B)
[PANEL BOARD]
CN782 8P
IC781 (2/2) M5218AL
IC781 (1/2) M5218AL
IC781 MIC AMP
RV781 MIC LEVEL
IC751 DISPLAY CONTROL
IC751 HD6433258F-B09F
CN701 25P
F MAIN BOARD CN601
(See Page 14)
Q751-754 LED DRIVER
US,CND,E,AUS,EA,MY,SP,JE MODEL
AEP,UK,G,IT MODEL
CURSOR CONTROL
DIRECT
ENTER
CANCEL
MEMORY
AI PEQ
AI LPC
AI CONDITION
PROGRAM FUNCTION
TUNER
PHONO
CD
TAPE
MD/DAT
VIDEO 2
VIDEO 2/MD/DAT
VIDEO 1
SYSTEM POWER
KARAOKE PON
DSP MENU
DSP CONTROL
DISPLAY
ON/STANDBY
FL701 (2/2) FLUORESCENT INDICATOR TUBE REAR VIEW
TOP
IC701 SN755705
IC702 SN755705
IC701 IC702 ANODE DRIVER
IC703 SN755705
IC703 GRID DRIVER
TP701 GRID SCAN CHECK
BOTTOM
FL701 (1/2) FLUORESCENT INDICATOR TUBE REAR VIEW

Note:

- All capacitors are in µF unless otherwise noted. pF:µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- ▭ : panel designation.
- ═══ : B+ Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  - ⇨ : FM
  - ▷ : MIC

CND	:	Canadian model.
G	:	German model.
IT	:	Italian model.
EA	:	Saudi Arabia model.
AUS	:	Australian model.
SP	:	Singapore model.
MY	:	Malaysia model.
JE	:	Tourist model.

5-10. IC PIN FUNCTIONS

• IC102 2CH A/D CONVERTER (AK5369VS) — DSP BOARD —

Pin No.	Pin Name	I/O	Function
1	AGND	–	Analog section analog GND
2	AINL	I	Lch analog input
3	ZEROL	I	Lch zero level input. Connected to AGND.
4	VA+	–	Analog section analog + power supply. Connected to A +5V.
5	VA–	–	Analog section analog – power supply. Connected to A –5V.
6	APD	I	Analog section power down. "H": Power down mode.
7	ACAL	I	Analog calibration. Normally connected to DCAL. This pin level switches the input pin for external signals. "H": Zero level input (ZEROL, ZEROR), "L": Analog input (AINL, AINR).
8	NC	–	Not used (Open).
9	DCAL	O	Digital calibration. Indicates that offset calibration is in function. Normally connected to ACAL. Rises immediately after the power down signal is input to DPD, and becomes "L" 4096$L/\overline{R}$ periods (Approx. 85 msec when fs=48 kHz) after DPD falls, and indicates the calibration has ended.
10	DPD	I	Digital section power down. "H": Power down mode.
11	TST	I	Test pin. Connected to DGND.
12	CMODE	I	Master clock select. Connected to D +5V. "L": CLK=256 fs (12.288 MHz @fs=48 kHz), "H": CLK=384 fs (18.432 MHz @fs=48 kHz).
13	SMODE	I	Interface clock. Connected to D +5V. Sets the I/O of clock pins L/XR, SCLK, FSYNC. "L": Slave mode (All pins are inputs), "H": Master mode (All pins are outputs).
14	L/XR	O	Input channel select. Outputs the fs clock. SDATA is output from $L/\overline{R}$ edge after 1 SCLK. "H": Power down (DPD="H") (Master mode)
15	SCLK	O	Serial data clock. 1 bit of output data is output at its falling edge. 64 fs clock is output. "L": Power down (DPD="H") (Master mode).
16	SDATA	O	Serial data output. 18 bits of data in 2's complement is output from MSB. When SCLK input is more than 19 bits, "L" will be output. "L": Power down (DPD="H").
17	FSYNC	O	Frame sync clock. Not used (Open).
18	VD+	–	Digital section power supply. Connected to D +5V.
19	DGND	–	Digital section GND.
20	CLK	I	Master clock input. CMODE="H": 384 fs, CMODE="L": 256 fs.
21	OCLK	O	128 fs clock output. "L": Power down (DPD="H").
22	NC	–	Not used (Open).
23	ICLK	I	128 fs clock input. Analog section clock. Connected to OCLK.
24	LGND	–	Analog section logic GND.
25	VL+	–	Analog section logic power supply. Connected to A +5V.
26	ZEROR	I	Rch zero level input. Connected to AGND. Normally this pin input voltage is set to zero level and the Rch offset is calibrated.
27	AINR	I	Rch analog input.
28	VREF	O	Reference voltage output –3.68V. The full scale of the input signal depends on this voltage. fs= ± 3.68V when VREF=–3.68V.

• IC201 DIGITAL SIGNAL PROCESSOR (CXD2705AQ) — DSP BOARD —

IC201 is a 2ch digital signal processor (DSP). It has equalizer, dynamics, and reverb functions on a single chip.
Using the external 1Mbit D-RAM (IC202, M5M411664), it will perform the following sound processings without performing analog conversion.

- DPE (Digital Parametric Equalizer)
- AI condition
- DDS (Digital Dynamic Sound) compressor effect
- AI LPC
- DPS (Digital Presence Surround) surround effect
- Rear component generation
- KARAOKE-PON

Pin No.	Pin Name	I/O	Function
1	EA0	O	M5M411664 (D-RAM) address
2	Vss	–	GND
3	EA1	O	M5M411664 (D-RAM) address
4	EA2	O	
5	EA3	O	
6	EA4	O	
7	EA5	O	
8	EA6	O	
9	EA7	O	
10	EA8	O	D-RAM address. Not used (open).
11	TA7	I	Test pin. Connected to GND.
12	Vss	–	GND
13	TA6	I	Test pin. Connected to GND.
14	XRST	I	Reset input. "L": Reset.
15	SP0	O	Static port 0. Not used (open).
16	SP1	O	Static port 1. Not used (open).
17	SP2	O	Static port 2. Not used (open).
18	MOVF	O	MAC overflow signal output. Not used (open).
19	AOVF	O	ALU overflow signal output. Not used (open).
20	REDY	O	Ready-for-service signal output to HD6433388 (gate array).
21	TRDT	O	Data output to HD6433388 (gate array). Not used (open).
22	RVDT	I	Data input from HD6433388 (gate array).
23	SCK	I	Shift clock input from HD6433388 (gate array).
24	XLAT	I	Mode partition signal input from HD6433388 (gate array).
25	TA5	I	Test pin. Connected to GND.
26	TA4	I	
27	BFOT	O	Clock buffer output. Not used (open).
28	CLKO	O	Clock output (51.035MHz)
29	CLKI	I	Clock input (51.035MHz)
30	TA3	I	Test pin. Connected to GND.
31	TA2	I	
32	Vss2	–	GND
33	VDD0	–	+5V power supply
34	TA1	I	Test pin. Connected to +5V.
35	TA0	I	

Pin No.	Pin Name	I/O	Function
36	SOC	O	Serial data output. Not used (open).
37	SOB	O	Serial data output (rear output).
38	SOA	O	Serial data output (front output).
39	SIB	I	Serial data input. Connect to GND.
40	SIA	I	Serial data input.
41	LRCK0	I	LR clock input
42	LRCK1	I	
43	BCK0	I	Bit clock input
44	BCK1	I	
45	Vss3	–	GND
46	D2BK	O	1/2 divided bit clock output.
47	D2LR	O	1/2 divided LR clock output.
48	D4BK	O	1/4 divided bit clock output. Not used (open).
49	D4LR	O	1/4 divided LR clock output. Not used (open).
50	ED0	I/O	Data input/output with M5M411664 (D-RAM).
51	TST1	I	Test pin. Connected to GND.
52	Vss	–	GND
53	TST0	I	Test pin. Connected to GND.
54	ED1	I/O	Data input/output with M5M411664 (D-RAM).
55	ED2	I/O	
56	ED3	I/O	
57	ED4	I/O	
58	ED5	I/O	
59	ED6	I/O	
60	ED7	I/O	
61	ED8	I/O	
62	ED9	I/O	
63	Vss5	–	GND
64	ED10	I/O	Data input/output with M5M411664 (D-RAM).
65	ED11	I/O	
66	XOE	O	Output enable output of M5M411664 (D-RAM). "L": Valid.
67	CAS	O	Column address strobe output of M5M411664 (D-RAM).
68	ED12	I/O	Data input/output with M5M411664 (D-RAM).
69	ED13	I/O	
70	ED15	I	Test pin. Connected to GND.
71	ED14	I	
72	Vss6	–	GND
73	VDD1	–	+5V power supply
74	TD13	I	Test pin. Connected to GND.
75	TD12	I	
76	ED14	I/O	Data input/output with M5M411664 (D-RAM).
77	ED15	I/O	
78	$\overline{\text{WE}}$	O	Write enable output of M5M411664 (D-RAM). "L": Valid.
79	RAS	O	Row address strobe output of M5M411664 (D-RAM).
80	EA9	O	D-RAM address. Not used (open).

• IC301 AND IC401 D/A CONVERTER (WITH BUILT-IN DIGITAL FILTER) AND DIGITAL ATTENUATOR (TC9270F)

– DSP BOARD –

Pin No.	Pin Name	I/O	Function
1	$P/\overline{S}$	I	Pin for switching serial and parallel controls. Connected to GND.
2	R-ZERO	O	R channel digital zero detection output. Not used (Open).
3	$\overline{\text{TEST}}$	I	Test pin. Normally "H". Connected to D +5V.
4	VDA	–	Analog power supply for R channel D/A converter. Connected to A +5V.
5	RO	O	R channel data normal output
6	$\overline{\text{RO}}$	O	R channel data inverse output
7	GNDA	–	Analog GND for R channel D/A converter
8	GNDA	–	Analog GND for L channel D/A converter
9	$\overline{\text{LO}}$	O	L channel data inverse output
10	LO	O	L channel data normal output
11	VDA	–	Analog power supply for L channel D/A converter. Connected to A +5V.
12	GNDX	–	Oscillation section GND
13	XI	I	Connected to crystal oscillator.
14	XO	O	Generates clocks required for the system.
15	VDX	–	Oscillation section power supply. Connected to A +5V.
16	GND	–	Logic section GND.
17	$\overline{256}/384$	I	Clock select. Connected to D +5V. "L": Corresponds to 256 fs, "H": Corresponds to 384 fs.
18	L-ZERO	O	L channel digital zero detection output. Not used (Open).
19	MCK	O	System clock output.
20	LATCH	I	During serial control, data latch signal input pin for attenuator. (During parallel control, deemphasis filter mode select pin.)
21	SHIFT	I	During serial control, shift clock input pin for attenuator. (During parallel control, deemphasis filter mode select pin.)
22	ATT	I	During serial control, data input pin for attenuator. (During parallel control, muting pin.) "H": Mute ON.
23	OSCE	I	System clock control. Connected to D +5V. "L": Stops system clock.
24	$\overline{\text{RESET}}$	I	Reset pin. "L": Resets Σ Δ circuit and sets attenuator data to 00 (HEX).
25	DATA	I	Data input.
26	BCK	I	Bit clock input.
27	LRCK	I	LR clock input. ("H": L channel data)
28	VDD	–	Logic power supply. Connected to D + 5V.

• IC601 MASTER CONTROLLER (HD6433388-A17F) — MAIN BOARD —

Pin No.	Pin Name	I/O	Function
1	$\overline{\text{RES}}$	I	System reset input. "L": Reset.
2	XTAL	O	System clock output (20 MHz)
3	EXTAL	I	System clock input (20 MHz)
4	MD1	I	System mode switching input. Fixed at "H" (Connected to +5V).
5	MD0	I	
6	$\overline{\text{NMI}}$	I	Power down detection input. "L": Power down.
7	$\overline{\text{STBY}}$	I	Standby mode input. Fixed at "H" (Connected to +5V).
8	Vcc	–	Power supply (+5V).
9	GC CLK	O	Display data period clock output to graphic controller (IC751)
10	GC REQ	I	Data request input from graphic controller (IC751)
11	GC DATA	O	Serial data output to graphic controller (IC751)
12	Vss	–	GND
13	GC SELFREQ	O	Self request output. Normally "L".
14	ϕ	–	Not used (Connected to GND).
15	GC INIT	O	Reset output to DSP (IC201) and DATT and DA converter (IC301, IC401)
16	I	–	Not used (Connected to GND).
17	I	–	
18	GC READY	I	READY input from graphic controller (IC751). Normally "L".
19	I	–	Not used (Connected to GND).
20	I	–	
21	I	–	
22	AUBO	O	Audio bus output
23	AUBI	I	Audio bus input
24	I	–	Not used (Connected to GND).
25	I	–	
26	POWER ON/$\overline{\text{OFF}}$	O	Control output to power relay (RY991, RY992)
27	$\overline{\text{REAR}}$/CENTER	O	Control output to rear/center relay (RY882)
28	REAR SP ON/OFF	O	Control output to rear speaker relay (RY881)
29	AVcc	–	Power supply (+5V)
30	SPE1	I	Input for spectrum analyzer and level meter from BPF (IC605).
31	SPE2	I	
32	SPE3	I	
33	SPE4	I	
34	VOLUME	I	Volume position detection input
35	KEY0	I	Key input (S651 to S661)
36	KEY1	I	Key input (S671 to S681)
37	KEY2	I	Key input (S682)
38	AVss	–	GND
39	HP IN/$\overline{\text{NONE}}$	I	Headphone plug insertion detection input. "H": Plug in, "L": No plug.
40	BPFCLK	O	Clock output to BPF (IC605) (529.2 kHz)

Pin No.	Pin Name	I/O	Function
41	VOLUP	O	Volume UP control output
42	VOLDOWN	O	Volume DOWN control output
43	I	–	Not used (connected to GND).
44	I	–	
45	SEL1	O	Filter select signal output to BPF (IC605)
46	SEL2	O	
47	Vcc	–	Power supply (+ 5V)
48	$\overline{\text{VOL LED}}$	O	Volume LED drive output
49	$\overline{\text{HP MUTE}}$	O	Mute signal output to headphone amplifier. "L": Mute.
50	$\overline{\text{FRONT MUTE}}$	O	Mute signal output to line amplifier. "L": Mute.
51	$\overline{\text{DIRECT}}$/DSP ON	O	Control output to direct/DSP ON switching relay (RY401).
52	I	–	Not used (Connected to GND).
53	I	–	
54	FRONT SP ON/$\overline{\text{OFF}}$	O	Control output to mute relay (RY402) of front speaker output.
55	I	–	Not used (Connected to GND).
56	Vss	–	GND
57	TEST3	O	Test port output. Square wave is generated at TEST 1 and 2 if microprocessor operates correctly.
58	TEST2	O	
59	TEST1	O	
60	AFUNC2	O	Audio function switching and data output
61	AFUNC1	O	
62	AFUNC0	O	
63	VFUNC1	O	Video function switching and data output
64	VFUNC0	O	
65	SHIMUKE1	I	Destination select input. "L": Except AEP, UK, German, Italian model.
66	SHIMUKE0	I	Destination select input. "L": AEP, UK, German, Italian model.
67	DOLBY TEST	I	Dolby surround check switching input. Normally "L".
68	BACKUP CHECK	I	Backup check
69	GAIN $\overline{\text{2DB}}$	O	Gain amplifier control output. "L": +2 dB.
70	GAIN $\overline{\text{4DB}}$	O	Gain amplifier control output. "L": +4 dB.
71	GAIN $\overline{\text{8DB}}$	O	Gain amplifier control output. "L": +8 dB.
72	I	–	Not used (Connected to GND).
73	Vss	–	GND
74	PON	O	Power down output to A/D converter (IC102)
75	DFR LATCH	O	Latch output to rear digital filter/DA converter (IC401)
76	DFF LATCH	O	Latch output to front digital filter/DA converter (IC301)
77	DSP LATCH	O	Latch output to digital signal processor (IC201)
78	DATA	O	Data output to digital signal processor (IC201) and digital filter/DA converter (IC301, IC401)
79	READY	I	READY input from digital signal processor (IC201)
80	CLK	O	Data transfer clock output to digital signal processor (IC201) and digital filter/DA converter (IC301, IC401)

• IC605 BPF (XR1092CP) — MAIN BOARD —

The BPF is a graphic equalizer filter which incorporates 12 filters (15.625 Hz to 20 kHz), an output multiplexer, etc. It creates data for the spectrum analyzer and analog meter display.

Pin No.	Pin Name	I/O	Function
1	Vss	–	Vss. Connected to A –5V.
2	CLKR	–	Not used (open).
3	CLKC	I	Clock input
4	VDD	–	VDD input. Connected to D +5V.
5	OUT3	O	Multiplexer output for 4 kHz, 8 kHz, 16 kHz, and 20 kHz filters
6	OUT2	O	Multiplexer output for 250 Hz, 500 Hz, 1 kHz, and 2 kHz filters
7	SEL4	–	Not used (Open).
8	SEL3	–	
9	OUT5	–	
10	MUTE	I	Mute input. Drops all outputs to the reference voltage (0V).
11	SEL2	I	Together with SEL 1, selects filter outputs output to OUT1 to OUT4. (See Table 1.)
12	SEL1	I	Together with SEL 2, selects filter outputs output to OUT1 to OUT4. (See Table 1.)
13	OUT1	O	Multiplexer output for 15.625 Hz, 31.25 Hz, 62.5 Hz, and 125 Hz filters
14	OUT4	O	Multiplexer output for peak sum and external inputs
15	AUX3	–	Not used. Connected to GND.
16	AUX2	I	External input 2 (For analog meter)
17	AUX1	I	External input 1 (For analog meter)
18	AGND	–	GND
19	RIN	I	R input (For graphic equalizer)
20	LIN	I	L input (For graphic equalizer)

SEL2 Pin ⑪	SEL1 Pin ⑫	OUT1	OUT2	OUT3	OUT4
0	0	15.625Hz	250Hz	4kHz	Peak Sum
0	1	31.25Hz	500Hz	8kHz	Aux1
1	0	62.5Hz	1kHz	16kHz	Aux2
1	1	125Hz	2kHz	20kHz	Aux3

Table 1. Set Up Table of SEL 1 and SEL 2 (XR1092CP)

• IC751 GRAPHIC CONTROLLER (HD6433258-B09F) — PANEL BOARD —

Pin No.	Pin Name	I/O	Function
1	XTAL	O	System clock output (16 MHz)
2	EXTAL	I	System clock input (16 MHz)
3	MD	I	System mode input. Fixed at "H" (Connected to D +5V).
4	MD0	I	
5	$\overline{\text{NMI}}$	I	Power down input. "L": Power down.
6	Vcc	–	Power supply (D +5V)
7	$\overline{\text{STBY}}$	I	Standby mode input. Fixed at "H" (Connected to D +5V).
8	Vss	–	GND
9	$\overline{\text{GCL}}$	O	Grid clear output. Normally "H".
10	$\overline{\text{ACL}}$	O	Anode clear output. Normally "H".
11	LE	O	Data latch output to FL driver (IC701 to IC703)
12	GCLK	O	Transfer clock output to FL driver (IC703)
13	LE	O	Data latch output to FL driver (IC701 to IC703)
14	GDATA	O	Data output to FL driver (IC703)
15	——	–	Not used (Open).
16	——	–	
17	ADATA	O	Data output to FL driver (IC701, IC702)
18	——	–	Not used (Open).
19	ACLK	O	Transfer clock output to FL driver (IC701, IC702)
20	——	–	Not used (Open).
21	GCDATA	I	Serial data input from master controller (IC601)
22	GCCLK	I	Display data period clock input from master controller (IC601)
23	GCREADY	O	READY output to master controller (IC601). Normally "L".
24	GCREQ	O	Data request output to master controller (IC601)
25 to 30	——	–	Not used (Connected to GND).
31	Vcc	–	Power supply (D +5V)
32 to 39	——	O	LED drive port. "L": Lights.
40	Vss	–	GND
41 to 48	——	O	LED drive port. "L": Lights.
49	$\overline{\text{O/SG}}$	–	Not used (Open).
50 to 60	——	–	Not used (Connected to GND).
61, 62	——	–	Not used (Connected to D +5V).
63	CHECK-NMI	–	
64	$\overline{\text{RES}}$	I	Reset input

SECTION 6
EXPLODED VIEW

NOTE:

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts color ↑ Cabinet's color

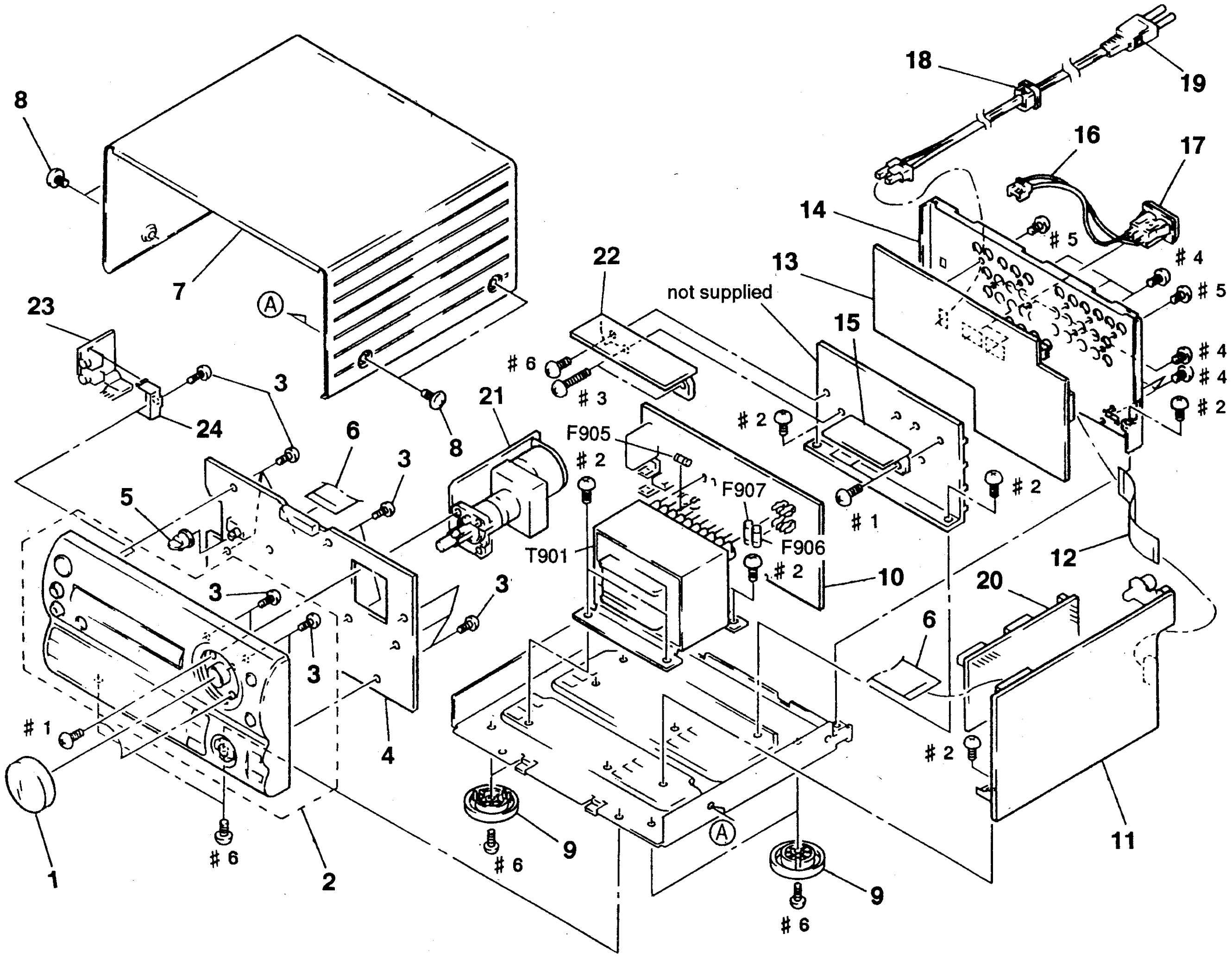
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Hardware (# mark) list is given in the last of this parts list.

- CND : Canadian model
- G : German model
- IT : Italian model
- EA : Saudi Arabia model
- AUS : Australian model
- SP : Singapore model
- MY : Malaysia model
- JE : Tourist model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

6-1. CASE AND CHASSIS BLOCK


8
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F905
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F907
T901
F906
# 2
# 1
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12
20
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11
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4
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1
# 6
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9
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9
# 6

Ref. No.	Part No.	Description	Remark
1	X-4944-056-1	KNOB (VOLUME) ASSY	
2	X-4944-068-2	PANEL ASSY, FRONT (AEP, UK, G, IT)	
2	X-4944-069-2	PANEL ASSY, FRONT (E, AUS, EA, MY, SP, JE)	
2	X-4944-585-2	PANEL ASSY, FRONT (US, CND)	
3	4-951-620-01	SCREW (2.6X8), +BVTP	
* 4	A-4365-428-A	PANEL BOARD, COMPLETE	
5	4-961-522-01	KNOB (HP)	
6	1-751-949-11	WIRE (FLAT TYPE) (25 CORE)	
* 7	4-961-519-01	CASE	
8	3-363-099-21	SCREW (CASE 3 TP2)	
9	X-4944-053-1	FOOT (DIA. 42) ASSY	
* 10	A-4369-320-A	POWER BOARD, COMPLETE (US, CND)	
* 10	A-4369-323-A	POWER BOARD, COMPLETE (E, AUS, EA, MY, SP, JE)	
* 10	A-4369-326-A	POWER BOARD, COMPLETE (G, IT)	
* 10	A-4369-329-A	POWER BOARD, COMPLETE (AEP, UK)	
* 11	A-4369-319-A	MAIN BOARD, COMPLETE (US, CND)	
* 11	A-4369-322-A	MAIN BOARD, COMPLETE (E, AUS, EA, MY, SP, JE)	
* 11	A-4369-325-A	MAIN BOARD, COMPLETE (G, IT)	
* 11	A-4369-328-A	MAIN BOARD, COMPLETE (AEP, UK)	
12	1-575-733-11	WIRE, FLAT TYPE (17 CORE)	
* 13	A-4365-431-A	PIN JACK BOARD, COMPLETE (US, CND)	
* 13	A-4369-321-A	PIN JACK BOARD, COMPLETE (E, AUS, EA, MY, SP, JE)	
* 13	A-4369-324-A	PIN JACK BOARD, COMPLETE (G, IT)	
* 13	A-4369-327-A	PIN JACK BOARD, COMPLETE (AEP, UK)	
* 14	4-961-520-21	PANEL, BACK (AEP)	
* 14	4-961-520-31	PANEL, BACK (UK)	
* 14	4-961-520-41	PANEL, BACK (IT)	
* 14	4-961-520-51	PANEL, BACK (G)	
* 14	4-961-520-61	PANEL, BACK (E, AUS, EA, JE)	
* 14	4-961-520-71	PANEL, BACK (MY)	
* 14	4-961-520-81	PANEL, BACK (SP)	
* 14	4-961-520-91	PANEL, BACK (US, CND)	
* 15	1-650-040-11	REG BOARD	
⚠16	1-751-216-42	LEAD (WITH CONNECTOR) (2 CORE)	
⚠17	1-526-794-11	OUTLET, AC (EXCEPT US, CND)	
⚠17	1-526-882-00	OUTLET, AC (US, CND)	
⚠*18	3-703-244-00	BUSHING (2104), CORD	
⚠19	1-575-651-21	CORD, POWER (AEP, G, IT, EA, MY, SP)	
⚠19	1-590-836-11	CORD, POWER (US, CND)	
⚠19	1-696-586-11	CORD, POWER (UK)	
⚠19	1-696-845-11	CORD, POWER (AUS)	
⚠19	1-751-621-11	CORD, POWER (E, JE)	
* 20	A-4365-435-A	DSP BOARD, COMPLETE	
* 21	1-649-569-11	VOLUME BOARD	
* 22	1-649-574-11	AMP BOARD	
* 23	1-649-573-11	HP/MIC BOARD	
* 24	4-961-523-01	BRACKET (HP)	
⚠F905	1-532-286-00	FUSE, TIME-LAG (T2.5A) (AEP, UK, E, G, IT, AUS, EA, MY, SP, JE)	
⚠F906	1-532-299-00	FUSE, TIME-LAG (T5A) (AEP, UK, E, G, IT, AUS, EA, MY, SP, JE)	
⚠F906	1-532-747-11	FUSE, GLASS TUBE (5A/125V) (US, CND)	
⚠F907	1-532-299-00	FUSE, TIME-LAG (T5A) (AEP, UK, E, G, IT, AUS, EA, MY, SP, JE)	
⚠F907	1-532-747-11	FUSE, GLASS TUBE (5A/125V) (US, CND)	
⚠T901	1-426-646-11	TRANSFORMER, POWER (UK)	
⚠T901	1-426-647-11	TRANSFORMER, POWER (AEP, G, IT)	
⚠T901	1-426-648-11	TRANSFORMER, POWER (E, AUS, EA, MY, SP, JE)	
⚠T901	1-426-649-11	TRANSFORMER, POWER (US, CND)	

AMP

SECTION 7
ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts color ↑ Cabinet's color
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA..., uPA...: μPA..., uPB...: μPB..., uPC...: μPC..., uPD...: μPD...
- Hardware (# mark) list is given in the last of this parts list.

- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- CAPACITORS
  uF : μF
- COILS
  uH : μH
- CND : Canadian model
- G : German model
- IT : Italian model
- EA : Saudi Arabia model
- AUS : Australian model
- SP : Singapore model
- MY : Malaysia model
- JE : Tourist model

Ref. No.	Part No.	Description			Remark
*	1-649-574-11	AMP BOARD			
		*********			
		< CAPACITOR >			
C801	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C802	1-126-161-11	ELECT	2.2uF	20%	50V
C803	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C804	1-124-910-11	ELECT	47uF	20%	50V
C805	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C806	1-126-049-11	ELECT	22uF	20%	25V
C807	1-124-478-11	ELECT	100uF	20%	25V
C808	1-126-049-11	ELECT	22uF	20%	25V
C809	1-124-478-11	ELECT	100uF	20%	25V
C811	1-124-910-11	ELECT	47uF	20%	50V
C812	1-126-059-11	ELECT	10uF	20%	50V
C813	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C814	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C815	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C816	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C851	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C852	1-126-161-11	ELECT	2.2uF	20%	50V
C853	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C854	1-124-910-11	ELECT	47uF	20%	50V
C855	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C861	1-124-910-11	ELECT	47uF	20%	50V
		< CONNECTOR >			
* CN801	1-573-262-11	PIN, CONNECTOR 3P			
		< DIODE >			
D801	8-719-016-74	DIODE	1SS352		
D851	8-719-016-74	DIODE	1SS352		
		< IC >			
IC801	8-749-920-19	IC	STK4122MK2		
		< TRANSISTOR >			
Q801	8-729-602-21	TRANSISTOR	2SC4154-F		

Ref. No.	Part No.	Description				Remark
Q851	8-729-602-21	TRANSISTOR	2SC4154-F			
		< RESISTOR >				
R800	1-216-295-00	METAL CHIP	0	5%	1/10W	
R801	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R802	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R803	1-216-041-00	METAL CHIP	470	5%	1/10W	
R804	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R805	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R806	1-216-077-00	METAL CHIP	15K	5%	1/10W	
⚠R807	1-249-470-11	CARBON	0.47	5%	1/2W	F
⚠R808	1-249-470-11	CARBON	0.47	5%	1/2W	F
R809	1-216-097-00	METAL CHIP	100K	5%	1/10W	
⚠R810	1-212-881-11	FUSIBLE	100	5%	1/4W	F
⚠R811	1-212-881-11	FUSIBLE	100	5%	1/4W	F
R812	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R813	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R814	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R815	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R816	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R817	1-216-001-00	METAL CHIP	10	5%	1/10W	
R818	1-216-001-00	METAL CHIP	10	5%	1/10W	
R819	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R851	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R852	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R853	1-216-041-00	METAL CHIP	470	5%	1/10W	
R854	1-216-091-00	METAL CHIP	56K	5%	1/10W	
R855	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R856	1-216-049-00	METAL CHIP	1K	5%	1/10W	
⚠R857	1-249-470-11	CARBON	0.47	5%	1/2W	F
⚠R858	1-249-470-11	CARBON	0.47	5%	1/2W	F
R859	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R861	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R862	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R863	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R864	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R898	1-216-308-00	METAL CHIP	4.7	5%	1/10W	
R899	1-216-308-00	METAL CHIP	4.7	5%	1/10W	

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Ref. No.	Part No.	Description			Remark
*	A-4365-435-A	DSP BOARD, COMPLETE			
		*******************			

< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C101	1-126-400-11	ELECT	22uF	20%	35V
C102	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C105	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C106	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C107	1-124-779-00	ELECT CHIP	10uF	20%	16V
C108	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C109	1-164-346-11	CERAMIC CHIP	1uF		16V
C110	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C151	1-126-400-11	ELECT	22uF	20%	35V
C152	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C153	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C154	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C155	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C156	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C157	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C203	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C204	1-164-346-11	CERAMIC CHIP	1uF		16V
C205	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C206	1-164-346-11	CERAMIC CHIP	1uF		16V
C207	1-164-346-11	CERAMIC CHIP	1uF		16V
C208	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C209	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C210	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C221	1-163-087-00	CERAMIC CHIP	4PF		50V
C222	1-163-087-00	CERAMIC CHIP	4PF		50V
C301	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C302	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C303	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C304	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C305	1-164-346-11	CERAMIC CHIP	1uF		16V
C306	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C310	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C311	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C312	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C313	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C320	1-164-346-11	CERAMIC CHIP	1uF		16V
C321	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C322	1-163-010-11	CERAMIC CHIP	0.0012uF	10%	50V
C331	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C332	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C333	1-126-601-11	ELECT CHIP	2.2uF	20%	50V
C341	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C342	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C343	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C361	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C362	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C363	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C371	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C372	1-163-010-11	CERAMIC CHIP	0.0012uF	10%	50V
C381	1-124-778-00	ELECT CHIP	22uF	20%	6.3V
C382	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C383	1-126-601-11	ELECT CHIP	2.2uF	20%	50V
C391	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C392	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C393	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C399	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C401	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C402	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C403	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C404	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C405	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C411	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C412	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C413	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C421	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C422	1-163-010-11	CERAMIC CHIP	0.0012uF	10%	50V
C461	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C462	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C463	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C471	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C472	1-163-010-11	CERAMIC CHIP	0.0012uF	10%	50V

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
* CN1	1-695-808-11	CONNECTOR, PC BOARD (RECEPTACLE) 8P	
* CN2	1-695-808-11	CONNECTOR, PC BOARD (RECEPTACLE) 8P	
* CN3	1-695-808-11	CONNECTOR, PC BOARD (RECEPTACLE) 8P	
* CN4	1-695-808-11	CONNECTOR, PC BOARD (RECEPTACLE) 8P	
* CN5	1-695-808-11	CONNECTOR, PC BOARD (RECEPTACLE) 8P	

< DIODE >

Ref. No.	Part No.	Description	Remark
D101	8-719-990-39	DIODE DCB010	

< FERRITE BEAD >

Ref. No.	Part No.	Description	Remark
FB299	1-414-235-11	FERRITE BEAD INDUCTOR	
FB399	1-414-235-11	FERRITE BEAD INDUCTOR	
FB499	1-414-235-11	FERRITE BEAD INDUCTOR	

< IC >

Ref. No.	Part No.	Description	Remark
IC101	8-759-106-02	IC UPC4570G2	
IC102	8-759-191-21	IC AK5369VS	
IC201	8-752-352-30	IC CXD2705AQ	
IC202	8-759-085-03	IC M5M411664	
IC301	8-759-188-07	IC TC9270F	
IC303	8-759-636-55	IC M5218AFP	
IC304	8-759-636-55	IC M5218AFP	
IC305	8-759-636-55	IC M5218AFP	

DSP

Ref. No.	Part No.	Description				Remark
IC401	8-759-188-07	IC	TC9270F			
IC403	8-759-636-55	IC	M5218AFP			
IC404	8-759-636-55	IC	M5218AFP			
		< COIL >				
L201	1-408-773-31	INDUCTOR CHIP	4.7uH			
		< TRANSISTOR >				
Q331	8-729-107-46	TRANSISTOR	2SC3624A-L15			
Q332	8-729-107-46	TRANSISTOR	2SC3624A-L15			
Q333	8-729-107-46	TRANSISTOR	2SC3624A-L15			
Q381	8-729-107-46	TRANSISTOR	2SC3624A-L15			
Q382	8-729-107-46	TRANSISTOR	2SC3624A-L15			
Q383	8-729-107-46	TRANSISTOR	2SC3624A-L15			
Q396	8-729-805-65	TRANSISTOR	2SA1344			
Q397	8-729-805-65	TRANSISTOR	2SA1344			
Q398	8-729-805-65	TRANSISTOR	2SA1344			
		< RESISTOR >				
R101	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R102	1-216-080-00	METAL CHIP	20K	5%	1/10W	
R103	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R104	1-216-025-00	METAL CHIP	100	5%	1/10W	
R105	1-216-001-00	METAL CHIP	10	5%	1/10W	
R108	1-216-019-00	METAL CHIP	56	5%	1/10W	
R109	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R151	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R152	1-216-080-00	METAL CHIP	20K	5%	1/10W	
R153	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R154	1-216-025-00	METAL CHIP	100	5%	1/10W	
R158	1-216-019-00	METAL CHIP	56	5%	1/10W	
R159	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R201	1-216-001-00	METAL CHIP	10	5%	1/10W	
R202	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R222	1-216-033-00	METAL CHIP	220	5%	1/10W	
R223	1-216-033-00	METAL CHIP	220	5%	1/10W	
R224	1-216-033-00	METAL CHIP	220	5%	1/10W	
R225	1-216-033-00	METAL CHIP	220	5%	1/10W	
R226	1-216-033-00	METAL CHIP	220	5%	1/10W	
R227	1-216-033-00	METAL CHIP	220	5%	1/10W	
R228	1-216-033-00	METAL CHIP	220	5%	1/10W	
R229	1-216-033-00	METAL CHIP	220	5%	1/10W	
R299	1-216-025-00	METAL CHIP	100	5%	1/10W	
R301	1-216-041-00	METAL CHIP	470	5%	1/10W	
R302	1-216-295-00	METAL CHIP	0	5%	1/10W	
R310	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R311	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R312	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R313	1-216-077-00	METAL CHIP	15K	5%	1/10W	

Ref. No.	Part No.	Description				Remark
R314	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
R315	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
R321	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R322	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R323	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R331	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R332	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R333	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R334	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R335	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R336	1-216-043-00	METAL CHIP	560	5%	1/10W	
R337	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R341	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R342	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R343	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R360	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R361	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R362	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R363	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R364	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
R365	1-216-689-11	METAL CHIP	39K	0.5%	1/10W	
R371	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R372	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R373	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R381	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R382	1-216-067-00	METAL CHIP	5.6K	5%	1/10W	
R383	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R384	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R385	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R386	1-216-043-00	METAL CHIP	560	5%	1/10W	
R387	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R391	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R392	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R393	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R396	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R397	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R398	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R399	1-216-025-00	METAL CHIP	100	5%	1/10W	
R401	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R410	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R411	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R412	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R413	1-216-077-00	METAL CHIP	15K	5%	1/10W	
R414	1-216-094-00	METAL GLAZE	75K	5%	1/10W	
R415	1-216-094-00	METAL GLAZE	75K	5%	1/10W	
R421	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R422	1-216-053-00	METAL CHIP	1.5K	5%	1/10W	
R423	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R460	1-216-079-00	METAL CHIP	18K	5%	1/10W	
R461	1-216-077-00	METAL CHIP	15K	5%	1/10W	

Ref.No.	Part No.	Description			Remark
R462	1-216-079-00	METAL CHIP	18K	5%	1/10W
R463	1-216-077-00	METAL CHIP	15K	5%	1/10W
R464	1-216-094-00	METAL GLAZE	75K	5%	1/10W
R465	1-216-094-00	METAL GLAZE	75K	5%	1/10W
R471	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R472	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R473	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R499	1-216-025-00	METAL CHIP	100	5%	1/10W

< VIBRATOR >

Ref.No.	Part No.	Description
X201	1-760-134-21	VIBRATOR, CRYSTAL (51.035MHz)
X301	1-579-280-11	VIBRATOR, CRYSTAL (16.9344MHz)

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* 1-649-573-11 HP/MIC BOARD

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< CAPACITOR >

Ref.No.	Part No.	Description			Remark
C781	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C782	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C783	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C792	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C798	1-164-159-11	CERAMIC	0.1uF		50V
C799	1-164-159-11	CERAMIC	0.1uF		50V

< CONNECTOR >

Ref.No.	Part No.	Description
* CN781	1-566-973-11	PIN, CONNECTOR (PC BOARD) 8P
CN783	1-573-712-11	CONNECTOR, BOARD TO BOARD 8P

< JACK >

Ref.No.	Part No.	Description
CNJ781	1-750-032-31	JACK (DIA. 3.5)(HEADPHONES)
CNJ782	1-750-032-31	JACK (DIA. 3.5)(MIX MIC)

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* A-4369-319-A MAIN BOARD, COMPLETE (US,CND)

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* A-4369-322-A MAIN BOARD, COMPLETE (E,AUS,EA,MY,SP,JE)

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* A-4369-325-A MAIN BOARD, COMPLETE (G,IT)

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* A-4369-328-A MAIN BOARD, COMPLETE (AEP,UK)

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< CAPACITOR >

Ref.No.	Part No.	Description			Remark
C171	1-126-022-11	ELECT	47uF	20%	16V
C172	1-126-022-11	ELECT	47uF	20%	16V
C173	1-124-587-11	ELECT	220uF	20%	6.3V
C174	1-124-587-11	ELECT	220uF	20%	6.3V
C175	1-124-443-00	ELECT	100uF	20%	10V
C207	1-124-587-11	ELECT	220uF	20%	6.3V
C401	1-126-022-11	ELECT	47uF	20%	16V
C402	1-126-022-11	ELECT	47uF	20%	16V
C411	1-126-022-11	ELECT	47uF	20%	16V
C412	1-124-180-00	ELECT	33uF	20%	25V
C413	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C415	1-126-301-11	ELECT	1uF	20%	50V
C416	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C421	1-126-161-11	ELECT	2.2uF	20%	50V
C422	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C423	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C425	1-161-377-00	CERAMIC	4700PF	20%	16V (G)
C451	1-126-022-11	ELECT	47uF	20%	16V
C452	1-126-022-11	ELECT	47uF	20%	16V
C461	1-126-022-11	ELECT	47uF	20%	16V
C462	1-124-180-00	ELECT	33uF	20%	25V
C463	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C466	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C471	1-126-161-11	ELECT	2.2uF	20%	50V
C472	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C473	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C475	1-161-377-00	CERAMIC	4700PF	20%	16V (G)
C497	1-164-159-11	CERAMIC	0.1uF		50V
C498	1-164-159-11	CERAMIC	0.1uF		50V
C499	1-164-159-11	CERAMIC	0.1uF		50V
C602	1-124-587-11	ELECT	220uF	20%	6.3V
C603	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C604	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C605	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C606	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C607	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C608	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C609	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C610	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C611	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C612	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C613	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C614	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C615	1-126-022-11	ELECT	47uF	20%	16V
C616	1-124-587-11	ELECT	220uF	20%	6.3V
C617	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C621	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C622	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C623	1-126-916-11	ELECT	1000uF	20%	6.3V
C631	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C632	1-124-443-00	ELECT	100uF	20%	10V
C633	1-124-443-00	ELECT	100uF	20%	10V
C691	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C692	1-163-001-11	CERAMIC CHIP	220PF	10%	50V

MAIN

Ref. No.	Part No.	Description	Remark
C693	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
		< CONNECTOR >	
CN11	1-764-156-11	PIN, CONNECTOR 8P	
CN12	1-764-156-11	PIN, CONNECTOR 8P	
CN13	1-764-156-11	PIN, CONNECTOR 8P	
CN14	1-764-156-11	PIN, CONNECTOR 8P	
CN15	1-764-156-11	PIN, CONNECTOR 8P	
* CN101	1-568-836-11	SOCKET, CONNECTOR 17P	
CN151	1-573-267-21	PIN, CONNECTOR 8P	
CN401	1-573-271-11	PIN, CONNECTOR 12P	
* CN402	1-573-262-11	PIN, CONNECTOR 3P	
* CN601	1-568-841-11	SOCKET, CONNECTOR 25P	
* CN602	1-564-340-00	PIN, CONNECTOR 6P	
* CN603	1-506-503-11	PIN, CONNECTOR 9P	
		< DIODE >	
D201	8-719-200-82	DIODE 11ES2	
D401	8-719-016-74	DIODE 1SS352	
D402	8-719-016-74	DIODE 1SS352	
D403	8-719-016-74	DIODE 1SS352	
D601	8-719-990-39	DIODE DCB010	
D602	8-719-990-39	DIODE DCB010	
D603	8-719-200-82	DIODE 11ES2	
D604	8-719-016-74	DIODE 1SS352	
D605	8-719-021-31	DIODE UZM5.1B	
D606	8-719-016-74	DIODE 1SS352	
D691	8-719-800-76	DIODE 1SS226	
		< IC >	
IC173	8-759-604-35	IC M5F78M05L	
IC174	8-759-700-65	IC NJM79L05A	
IC401	8-759-745-64	IC NJM4560M	
IC402	8-759-106-02	IC UPC4570G2	
IC451	8-759-636-55	IC M5218AFP	
IC601	8-759-188-08	IC HD6433388-A17F	
IC602	8-759-634-43	IC M51953BFP	
IC605	8-759-512-48	IC XR1092CP	
		< JACK >	
J101	1-565-352-11	JACK, PIN 2P (FRONT SPEAKER)	
		< JUMPER RESISTOR >	
JR601	1-216-295-00	METAL CHIP 0 5% 1/10W	(AEP, UK, G, IT)
JR602	1-216-295-00	METAL CHIP 0 5% 1/10W	(US, CND, E, AUS, EA, MY, SP, JE)
JR603	1-216-295-00	METAL CHIP 0 5% 1/10W	

Ref. No.	Part No.	Description	Remark
		< COIL >	
L201	1-410-397-21	FERRITE BEAD INDUCTOR	
L603	1-410-397-21	FERRITE BEAD INDUCTOR	
L604	1-408-793-21	INDUCTOR CHIP 220uH	
L605	1-408-080-00	INDUCTOR 100uH	
		< TRANSISTOR >	
Q201	8-729-118-01	TRANSISTOR 2SB1116-K	
Q202	8-729-805-41	TRANSISTOR 2SC3398	
Q203	8-729-805-65	TRANSISTOR 2SA1344	
Q401	8-729-232-69	TRANSISTOR 2SK208-GR3	
Q402	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q403	8-729-602-21	TRANSISTOR 2SC4154-F	
Q404	8-729-805-65	TRANSISTOR 2SA1344	
Q405	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q406	8-729-602-21	TRANSISTOR 2SC4154-F	
Q407	8-729-805-65	TRANSISTOR 2SA1344	
Q408	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q409	8-729-805-65	TRANSISTOR 2SA1344	
Q410	8-729-805-65	TRANSISTOR 2SA1344	
Q451	8-729-232-69	TRANSISTOR 2SK208-GR3	
Q452	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q458	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q601	8-729-602-21	TRANSISTOR 2SC4154-F	
Q602	8-729-805-43	TRANSISTOR 2SC3396	
Q607	8-729-107-46	TRANSISTOR 2SC3624A-L15	
Q608	8-729-107-46	TRANSISTOR 2SC3624A-L15	
		< RESISTOR >	
R203	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R204	1-216-033-00	METAL CHIP 220 5% 1/10W	
R205	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R401	1-216-025-00	METAL CHIP 100 5% 1/10W	
R402	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R403	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R404	1-216-095-00	METAL CHIP 82K 5% 1/10W	
R405	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R406	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R407	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R408	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R409	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R410	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R411	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R412	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R413	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R414	1-216-033-00	METAL CHIP 220 5% 1/10W	
R415	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R416	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R417	1-216-025-00	METAL CHIP 100 5% 1/10W	
R418	1-216-041-00	METAL CHIP 470 5% 1/10W	

Ref.No.	Part No.	Description				Remark
R419	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R420	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R421	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R422	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R423	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R424	1-216-025-00	METAL CHIP	100	5%	1/10W	
R425	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R426	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R451	1-216-025-00	METAL CHIP	100	5%	1/10W	
R452	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R453	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R454	1-216-095-00	METAL CHIP	82K	5%	1/10W	
R455	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R456	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R457	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R458	1-216-121-00	METAL CHIP	1M	5%	1/10W	
R459	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R460	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R461	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R462	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R463	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R464	1-216-033-00	METAL CHIP	220	5%	1/10W	
R465	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R466	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R467	1-216-025-00	METAL CHIP	100	5%	1/10W	
R471	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R472	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R473	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R474	1-216-025-00	METAL CHIP	100	5%	1/10W	
R475	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R497	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R498	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R499	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R601	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R602	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R603	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R605	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R606	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R607	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R608	1-216-036-00	METAL CHIP	300	5%	1/10W	
R609	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R610	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R611	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R614	1-216-025-00	METAL CHIP	100	5%	1/10W	
R615	1-216-025-00	METAL CHIP	100	5%	1/10W	
R616	1-216-025-00	METAL CHIP	100	5%	1/10W	
R617	1-216-025-00	METAL CHIP	100	5%	1/10W	
R618	1-216-025-00	METAL CHIP	100	5%	1/10W	
R619	1-216-025-00	METAL CHIP	100	5%	1/10W	
R621	1-216-097-00	METAL CHIP	100K	5%	1/10W	

Ref.No.	Part No.	Description				Remark
R622	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R623	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R624	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R625	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R626	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R627	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R631	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R632	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R633	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R634	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R637	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R642	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R643	1-216-043-00	METAL CHIP	560	5%	1/10W	
R644	1-216-043-00	METAL CHIP	560	5%	1/10W	
R645	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R646	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R647	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R648	1-216-113-00	METAL CHIP	470K	5%	1/10W	
R649	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R695	1-216-025-00	METAL CHIP	100	5%	1/10W	
R696	1-216-025-00	METAL CHIP	100	5%	1/10W	
R697	1-216-025-00	METAL CHIP	100	5%	1/10W	
R698	1-216-025-00	METAL CHIP	100	5%	1/10W	
R699	1-216-025-00	METAL CHIP	100	5%	1/10W	

< RELAY >

RY401	1-515-803-11	RELAY
RY402	1-515-803-11	RELAY

< VIBRATOR >

X601	1-567-928-11	VIBLATOR, CERAMIC (20Hz)

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* A-4365-428-A PANEL BOARD, COMPLETE
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< CAPACITOR >

C703	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C704	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C705	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C706	1-104-694-91	FILM	0.1uF		100V
C708	1-104-694-91	FILM	0.1uF		100V
C709	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C711	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C748	1-164-159-11	CERAMIC	0.1uF		50V
C749	1-164-159-11	CERAMIC	0.1uF		50V
C751	1-124-584-00	ELECT	100uF	20%	10V
C752	1-163-222-11	CERAMIC CHIP	5PF	0.25PF	50V
C753	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C754	1-163-038-00	CERAMIC CHIP	0.1uF		25V

PANEL

Ref. No.	Part No.	Description	Remark
C755	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
C756	1-163-222-11	CERAMIC CHIP 5PF 0.25PF 50V	
C757	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C758	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C784	1-124-257-00	ELECT 2.2uF 20% 50V	
C785	1-163-113-00	CERAMIC CHIP 68PF 5% 50V	
C786	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
C787	1-124-465-00	ELECT 0.47uF 20% 50V	
C788	1-124-916-11	ELECT 22uF 20% 63V	
C789	1-124-257-00	ELECT 2.2uF 20% 50V	
C790	1-124-916-11	ELECT 22uF 20% 63V	
C791	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
		< CONNECTOR >	
* CN701	1-764-412-11	SOCKET, CONNECTOR 25P	
* CN782	1-566-970-11	HOUSING, CONNECTOR(PC BOARD)8P	
		< DIODE >	
D761	8-719-032-83	DIODE SEL5220S (CURSOR CONTROL)	
D762	8-719-032-83	DIODE SEL5220S (ENTER)	
D763	8-719-032-83	DIODE SEL5220S (DIRECT)	
D764	8-719-032-83	DIODE SEL5220S (KARAOKE PON)	
D765	8-719-026-64	DIODE SML1260S (AI CONDITION)	
D766	8-719-026-64	DIODE SML1260S (AI PEQ)	
D767	8-719-026-64	DIODE SML1260S (AI LPC)	
D768	8-719-046-44	DIODE SEL5221S (TUNER) (US,CND,E,AUS,EA,MY,SP,JE)	
D768	8-719-046-44	DIODE SEL5221S (PHONO)(AEP,UK,G,IT)	
D769	8-719-046-44	DIODE SEL5221S (CD) (US,CND,E,AUS,EA,MY,SP,JE)	
D769	8-719-046-44	DIODE SEL5221S (TUNER)(AEP,UK,G,IT)	
D770	8-719-046-44	DIODE SEL5221S (MD/DAT) (US,CND,E,AUS,EA,MY,SP,JE)	
D770	8-719-046-44	DIODE SEL5221S (CD)(AEP,UK,G,IT)	
D771	8-719-046-44	DIODE SEL5221S (TAPE)	
D772	8-719-045-39	DIODE SML12460C (VIDEO1)	
D773	8-719-045-39	DIODE SML12460C (VIDEO2) (US,CND,E,AUS,EA,MY,SP,JE)	
D773	8-719-045-39	DIODE SML12460C (VIDEO2/MD/DAT) (AEP,UK,G,IT)	
D774	8-719-032-83	DIODE SEL5220S (ON/STANDBY)	
		< FLUORESCENT INDICATOR >	
FL701	1-517-228-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC701	8-759-082-95	IC SN755705FT	
IC702	8-759-082-95	IC SN755705FT	
IC703	8-759-082-95	IC SN755705FT	
IC751	8-759-188-06	IC HD6433258-B09F	

Ref. No.	Part No.	Description	Remark
IC781	8-759-636-55	IC M5218AFP	
		< TRANSISTOR >	
Q751	8-729-805-65	TRANSISTOR 2SA1344	
Q752	8-729-805-65	TRANSISTOR 2SA1344	
Q753	8-729-805-65	TRANSISTOR 2SA1344	
Q754	8-729-805-65	TRANSISTOR 2SA1344	
		< RESISTOR >	
R651	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R652	1-216-025-00	METAL CHIP 100 5% 1/10W	
R653	1-216-027-00	METAL CHIP 120 5% 1/10W	
R654	1-216-027-00	METAL CHIP 120 5% 1/10W	
R655	1-216-029-00	METAL CHIP 150 5% 1/10W	
R656	1-216-031-00	METAL CHIP 180 5% 1/10W	
R657	1-216-033-00	METAL CHIP 220 5% 1/10W	
R658	1-216-035-00	METAL CHIP 270 5% 1/10W	
R659	1-216-037-00	METAL CHIP 330 5% 1/10W	
R660	1-216-041-00	METAL CHIP 470 5% 1/10W	
R661	1-216-043-00	METAL CHIP 560 5% 1/10W	
R671	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R672	1-216-025-00	METAL CHIP 100 5% 1/10W	
R673	1-216-027-00	METAL CHIP 120 5% 1/10W	
R674	1-216-027-00	METAL CHIP 120 5% 1/10W	
R675	1-216-029-00	METAL CHIP 150 5% 1/10W	
R676	1-216-031-00	METAL CHIP 180 5% 1/10W	
R677	1-216-033-00	METAL CHIP 220 5% 1/10W	
R678	1-216-035-00	METAL CHIP 270 5% 1/10W	
R679	1-216-037-00	METAL CHIP 330 5% 1/10W	
R680	1-216-041-00	METAL CHIP 470 5% 1/10W	
R681	1-216-043-00	METAL CHIP 560 5% 1/10W	
R682	1-216-053-00	METAL CHIP 1.5K 5% 1/10W	
R705	1-216-105-00	METAL CHIP 220K 5% 1/10W	
R751	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R755	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R756	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R757	1-216-033-00	METAL CHIP 220 5% 1/10W	
R758	1-216-033-00	METAL CHIP 220 5% 1/10W	
R759	1-216-033-00	METAL CHIP 220 5% 1/10W	
R760	1-216-033-00	METAL CHIP 220 5% 1/10W	
R761	1-216-029-00	METAL CHIP 150 5% 1/10W	
R762	1-216-029-00	METAL CHIP 150 5% 1/10W	
R763	1-216-029-00	METAL CHIP 150 5% 1/10W	
R764	1-216-029-00	METAL CHIP 150 5% 1/10W	
R765	1-216-029-00	METAL CHIP 150 5% 1/10W	
R766	1-216-029-00	METAL CHIP 150 5% 1/10W	
R767	1-216-029-00	METAL CHIP 150 5% 1/10W	
R768	1-216-029-00	METAL CHIP 150 5% 1/10W	
R769	1-216-034-00	METAL CHIP 240 5% 1/10W	
R770	1-216-034-00	METAL CHIP 240 5% 1/10W	

Ref.No.	Part No.	Description	Remark
R771	1-216-029-00	METAL CHIP 150 5% 1/10W	
R772	1-216-029-00	METAL CHIP 150 5% 1/10W	
R773	1-216-029-00	METAL CHIP 150 5% 1/10W	
R781	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R782	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R783	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R784	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R785	1-216-083-00	METAL CHIP 27K 5% 1/10W	
R786	1-216-041-00	METAL CHIP 470 5% 1/10W	
R787	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R788	1-216-105-00	METAL CHIP 220K 5% 1/10W	
R789	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R790	1-216-049-00	METAL CHIP 1K 5% 1/10W	

< VARIABLE RESISTOR >

Ref.No.	Part No.	Description	Remark
RV781	1-223-553-11	RES, VAR, CARBON 20K (MIC LEVEL)	

< SWITCH >

Ref.No.	Part No.	Description	Remark
S651	1-554-303-21	SWITCH, TACTILE (TUNER)	(US, CND, E, AUS, EA, MY, SP, JE)
S651	1-554-303-21	SWITCH, TACTILE (PHONO)(AEP, UK, G, IT)	
S652	1-554-303-21	SWITCH, TACTILE (CD)	(US, CND, E, AUS, EA, MY, SP, JE)
S652	1-554-303-21	SWITCH, TACTILE (TUNER)(AEP, UK, G, IT)	
S653	1-554-303-21	SWITCH, TACTILE (TAPE)	
S654	1-554-303-21	SWITCH, TACTILE (MD/DAT)	(US, CND, E, AUS, EA, MY, SP, JE)
S654	1-554-303-21	SWITCH, TACTILE (CD)(AEP, UK, G, IT)	
S655	1-554-303-21	SWITCH, TACTILE (VIDEO2)	(US, CND, E, AUS, EA, MY, SP, JE)
S655	1-554-303-21	SWITCH, TACTILE (VIDEO2/MD/DAT)	(AEP, UK, G, IT)
S656	1-554-303-21	SWITCH, TACTILE (VIDEO1)	
S657	1-554-303-21	SWITCH, TACTILE (SYSTEM POWER)	
S658	1-554-303-21	SWITCH, TACTILE (KARAOKE PON)	
S659	1-554-303-21	SWITCH, TACTILE (DSP MENU)	
S660	1-554-303-21	SWITCH, TACTILE (DSP CONTROL)	
S661	1-554-303-21	SWITCH, TACTILE (DISPLAY)	
S671	1-554-303-21	SWITCH, TACTILE (DIRECT)	
S672	1-554-303-21	SWITCH, TACTILE (ENTER)	
S673	1-554-303-21	SWITCH, TACTILE (CANCEL)	
S674	1-554-303-21	SWITCH, TACTILE (MEMORY)	
S675	1-554-303-21	SWITCH, TACTILE (▽)	
S676	1-554-303-21	SWITCH, TACTILE (◁)	
S677	1-554-303-21	SWITCH, TACTILE (△)	
S678	1-554-303-21	SWITCH, TACTILE (▷)	
S679	1-572-184-11	SWITCH, KEYBOARD (AI PEQ)	
S680	1-572-184-11	SWITCH, KEYBOARD (AI LPC)	
S681	1-572-184-11	SWITCH, KEYBOARD (AI CONDITION)	
S682	1-554-303-21	SWITCH, TACTILE (PROGRAM FUNCTION)	

< VIBRATOR >

Ref.No.	Part No.	Description	Remark
X751	1-567-927-11	VIBLATOR, CERAMIC (16MHz)	

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Ref.No.	Part No.	Description	Remark
*	A-4365-431-A	PIN JACK BOARD, COMPLETE (US, CND) *********************************	
*	A-4365-321-A	PIN JACK BOARD, COMPLETE ************************	(E, AUS, EA, MY, SP, JE)
*	A-4365-324-A	PIN JACK BOARD, COMPLETE (G, IT) ******************************	
*	A-4365-327-A	PIN JACK BOARD, COMPLETE (AEP, UK) *********************************	

< CAPACITOR >

Ref.No.	Part No.	Description	Remark
C501	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	
C502	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	
C503	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	
C504	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	
C505	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	
C506	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	(US, CND, E, AUS, EA, MY, SP, JE)
C507	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	
C508	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	
C509	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	
C510	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	
C511	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	(AEP, UK, G, IT)
C512	1-163-038-00	CERAMIC CHIP 0. 1uF 25V	
C513	1-163-038-00	CERAMIC CHIP 0. 1uF 25V	
C514	1-163-038-00	CERAMIC CHIP 0. 1uF 25V	
C515	1-126-022-11	ELECT 47uF 20% 16V	
C521	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	
C522	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	
C523	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	
C524	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	
C525	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	
C526	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	(US, CND, E, AUS, EA, MY, SP, JE)
C527	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	
C528	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	
C529	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	
C530	1-163-263-11	CERAMIC CHIP 330PF 5% 50V	
C531	1-163-001-11	CERAMIC CHIP 220PF 10% 50	(AEP, UK, G, IT)
C532	1-163-038-00	CERAMIC CHIP 0. 1uF 25V	
C533	1-163-038-00	CERAMIC CHIP 0. 1uF 25V	
C534	1-163-038-00	CERAMIC CHIP 0. 1uF 25V	
C535	1-126-022-11	ELECT 47uF 20% 16V	

PIN JACK

Ref. No.	Part No.	Description			Remark
C549	1-164-159-11	CERAMIC	0.1uF		50V
C551	1-126-301-11	ELECT	1uF	20%	50V
C552	1-126-301-11	ELECT	1uF	20%	50V
C553	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C554	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C555	1-126-022-11	ELECT	47uF	20%	16V
C556	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C557	1-126-022-11	ELECT	47uF	20%	16V
C559	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C560	1-126-925-11	ELECT	470uF	20%	10V
C561	1-126-925-11	ELECT	470uF	20%	10V
C562	1-126-925-11	ELECT	470uF	20%	10V
C571	1-164-005-11	CERAMIC CHIP	0.47uF		25 (AEP, UK, G, IT)
C572	1-163-001-11	CERAMIC CHIP	220PF	10%	50 (AEP, UK, G, IT)
C573	1-126-163-11	ELECT	4.7uF	20%	50 (AEP, UK, G, IT)
C574	1-163-018-00	CERAMIC CHIP	0.0056uF	5%	50 (AEP, UK, G, IT)
C575	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50 (AEP, UK, G, IT)
C576	1-126-161-11	ELECT	2.2uF	20%	50 (AEP, UK, G, IT)
C577	1-163-251-11	CERAMIC CHIP	100PF	5%	50 (AEP, UK, G, IT)
C581	1-164-005-11	CERAMIC CHIP	0.47uF		25 (AEP, UK, G, IT)
C582	1-163-001-11	CERAMIC CHIP	220PF	10%	50 (AEP, UK, G, IT)
C583	1-126-163-11	ELECT	4.7uF	20%	50 (AEP, UK, G, IT)
C584	1-163-018-00	CERAMIC CHIP	0.0056uF	5%	50 (AEP, UK, G, IT)
C585	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50 (AEP, UK, G, IT)
C586	1-126-161-11	ELECT	2.2uF	20%	50 (AEP, UK, G, IT)
C587	1-163-251-11	CERAMIC CHIP	100PF	5%	50 (AEP, UK, G, IT)
C591	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V (G, IT)
C593	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V (G, IT)
C595	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V (G, IT)
C597	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C598	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C599	1-164-159-11	CERAMIC	0.1uF		50V
		< CONNECTOR >			
CN501	1-568-860-11	SOCKET, CONNECTOR 17P			
CN502	1-764-013-41	HOUSING, CONNECTOR(PC BOARD) 5P			(SYSTEM CONTROL)

Ref. No.	Part No.	Description	Remark
* CN503	1-573-275-11	PIN, CONNECTOR 5P	
* CN591	1-573-265-31	PIN, CONNECTOR 6P	
CN951	1-751-217-51	LEAD (WITH CONNECTOR) (3 CORE)	(E, AUS, EA, MY, SP, JE)
		< IC >	
IC501	8-759-195-15	IC SC027MG051BF	
IC502	8-759-195-15	IC SC027MG051BF	
IC503	8-759-636-55	IC M5218AFP (AEP, UK, G, IT)	
IC504	8-759-195-15	IC SC027MG051BF	
IC505	8-759-195-21	IC SC027MG066BF	
IC506	8-759-195-21	IC SC027MG066BF	
IC551	8-759-061-95	IC SN761200N	
		< JACK >	
J501	1-565-303-11	JACK, PIN 6P (VIDEO1, VIDEO2 IN)(US, CND)	
* J501	1-569-812-11	JACK, PIN 6P (VIDEO1, VDEO2/MD/DAT IN)	(AEP, UK, G, IT)
* J501	1-569-812-11	JACK, PIN 6P (VIDEO1, VIDEO2 IN)	(E, AUS, EA, MY, SP, JE)
J502	1-565-303-11	JACK, PIN 6P (TAPE, VIDEO2 OUT)(US, CND)	
* J502	1-569-812-11	JACK, PIN 6P (TAPE, VIDEO2/MD/DAT OUT)	(AEP, UK, G, IT)
* J502	1-569-812-11	JACK, PIN 6P (TAPE, VIDEO2 OUT)	(E, AUS, EA, MY, SP, JE)
J503	1-565-304-11	JACK, PIN 4P (MD/DAT)(US, CND)	
J503	1-565-304-41	JACK, PIN 4P (TUNER, CD)(AEP, UK, G, IT)	
J503	1-565-304-41	JACK, PIN 4P (MD/DAT)	(E, AUS, EA, MY, SP, JE)
J504	1-565-304-11	JACK, PIN 4P (TUNER, CD)(US, CND)	
J504	1-565-304-41	JACK, PIN 4P (TUNER, CD)	(E, AUS, EA, MY, SP, JE)
J504	1-573-110-11	JACK, PIN 2P (PHONO)(AEP, UK, G, IT)	
J551	1-565-933-11	JACK, PIN 3P (MONITOR, VIDEO1)	
J552	1-573-144-11	JACK, PIN 2P (VIDEO2)	
* J591	1-764-389-11	JACK, PIN 2P (REAR SPEAKER)	
* J592	1-764-390-11	JACK, PIN 2P	(CENTER SPEAKER/SUPER WOOFER)
		< JUMPER RESISTOR >	
JR501	1-216-295-00	METAL CHIP 0 5% 1/10W	(US, CND, E, AUS, EA, MY, SP, JE)
JR503	1-216-295-00	METAL CHIP 0 5% 1/10W	(AEP, UK, G, IT)
JR521	1-216-295-00	METAL CHIP 0 5% 1/10W	(US, CND, E, AUS, EA, MY, SP, JE)
JR523	1-216-295-00	METAL CHIP 0 5% 1/10W	(AEP, UK, G, IT)
		< COIL >	
L551	1-410-397-21	FERRITE BEAD INDUCTOR	

Ref. No.	Part No.	Description	Remark
		< TRANSISTOR >	
Q501	8-729-805-41	TRANSISTOR 2SC3398	
Q502	8-729-805-41	TRANSISTOR 2SC3398	
Q503	8-729-805-41	TRANSISTOR 2SC3398	
Q551	8-729-600-22	TRANSISTOR 2SA1235-F	
Q552	8-729-600-22	TRANSISTOR 2SA1235-F	
Q553	8-729-600-22	TRANSISTOR 2SA1235-F	
		< RESISTOR >	
R501	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R502	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R503	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R504	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R505	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R506	1-216-049-00	METAL CHIP 1K 5% 1/10W	(AEP, UK, G, IT)
R506	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	(US, CND, E, AUS, EA, MY, SP, JE)
R507	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R508	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R509	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R510	1-216-049-00	METAL CHIP 1K 5% 1/10W	(US, CND, E, AUS, EA, MY, SP, JE)
R511	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R512	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R513	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R514	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R515	1-216-089-91	METAL GLAZE 47K 5% 1/10W	(US, CND, E, AUS, EA, MY, SP, JE)
R515	1-216-097-00	METAL CHIP 100K 5% 1/10W	(AEP, UK, G, IT)
R516	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	(US, CND, E, AUS, EA, MY, SP, JE)
R516	1-216-089-91	METAL GLAZE 47K 5% 1/10W	(AEP, UK, G, IT)
R517	1-216-115-00	METAL CHIP 560K 5% 1/10W	
R518	1-216-115-00	METAL CHIP 560K 5% 1/10W	
R519	1-216-115-00	METAL CHIP 560K 5% 1/10W	
R520	1-216-115-00	METAL CHIP 560K 5% 1/10W	(US, CND, E, AUS, EA, MY, SP, JE)
R521	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R522	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R523	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R524	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R525	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R526	1-216-049-00	METAL CHIP 1K 5% 1/10W	(AEP, UK, G, IT)
R526	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	(US, CND, E, AUS, EA, MY, SP, JE)
R527	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R528	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R529	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R530	1-216-049-00	METAL CHIP 1K 5% 1/10W	(US, CND, E, AUS, EA, MY, SP, JE)
R531	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R532	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R533	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R534	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R535	1-216-089-91	METAL GLAZE 47K 5% 1/10W	(US, CND, E, AUS, EA, MY, SP, JE)
R535	1-216-097-00	METAL CHIP 100K 5% 1/10W	(AEP, UK, G, IT)
R536	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	(US, CND, E, AUS, EA, MY, SP, JE)
R536	1-216-089-91	METAL GLAZE 47K 5% 1/10W	(AEP, UK, G, IT)
R537	1-216-115-00	METAL CHIP 560K 5% 1/10W	
R538	1-216-115-00	METAL CHIP 560K 5% 1/10W	
R539	1-216-115-00	METAL CHIP 560K 5% 1/10W	
R540	1-216-115-00	METAL CHIP 560K 5% 1/10W	(US, CND, E, AUS, EA, MY, SP, JE)
R541	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R542	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R543	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R544	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R546	1-216-033-00	METAL CHIP 220 5% 1/10W	
R547	1-216-033-00	METAL CHIP 220 5% 1/10W	
R548	1-216-033-00	METAL CHIP 220 5% 1/10W	
R553	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R554	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R555	1-216-031-00	METAL CHIP 180 5% 1/10W	
R556	1-216-031-00	METAL CHIP 180 5% 1/10W	
R557	1-216-031-00	METAL CHIP 180 5% 1/10W	
R558	1-216-025-00	METAL CHIP 100 5% 1/10W	
R559	1-216-025-00	METAL CHIP 100 5% 1/10W	
R560	1-216-025-00	METAL CHIP 100 5% 1/10W	
R561	1-216-022-00	METAL CHIP 75 5% 1/10W	
R562	1-216-022-00	METAL CHIP 75 5% 1/10W	
R563	1-216-022-00	METAL CHIP 75 5% 1/10W	
R564	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R565	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R566	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R567	1-216-033-00	METAL CHIP 220 5% 1/10W	
R568	1-216-033-00	METAL CHIP 220 5% 1/10W	
R571	1-216-089-91	METAL GLAZE 47K 5% 1/10W	(AEP, UK, G, IT)
R572	1-216-049-00	METAL CHIP 1K 5% 1/10W	(AEP, UK, G, IT)
R573	1-216-115-00	METAL CHIP 560K 5% 1/10W	(AEP, UK, G, IT)
R574	1-216-089-91	METAL GLAZE 47K 5% 1/10W	(AEP, UK, G, IT)

PIN JACK POWER

Ref. No.	Part No.	Description			Remark
R575	1-216-001-00	METAL CHIP	10	5%	1/10W (AEP, UK, G, IT)
R576	1-216-097-00	METAL CHIP	100K	5%	1/10W (AEP, UK, G, IT)
R577	1-216-073-00	METAL CHIP	10K	5%	1/10W
R578	1-216-073-00	METAL CHIP	10K	5%	1/10W
R579	1-216-073-00	METAL CHIP	10K	5%	1/10W
R581	1-216-089-91	METAL GLAZE	47K	5%	1/10W (AEP, UK, G, IT)
R582	1-216-049-00	METAL CHIP	1K	5%	1/10W (AEP, UK, G, IT)
R583	1-216-115-00	METAL CHIP	560K	5%	1/10W (AEP, UK, G, IT)
R584	1-216-089-91	METAL GLAZE	47K	5%	1/10W (AEP, UK, G, IT)
R585	1-216-001-00	METAL CHIP	10	5%	1/10W (AEP, UK, G, IT)
R586	1-216-097-00	METAL CHIP	100K	5%	1/10W (AEP, UK, G, IT)
R591	1-216-009-00	METAL CHIP	22	5%	1/10W (G, IT)
R592	1-216-009-00	METAL CHIP	22	5%	1/10W (G, IT)
R593	1-216-009-00	METAL CHIP	22	5%	1/10W (G, IT)
R594	1-216-009-00	METAL CHIP	22	5%	1/10W (G, IT)
R595	1-216-009-00	METAL CHIP	22	5%	1/10W (G, IT)
R596	1-216-009-00	METAL CHIP	22	5%	1/10W (G, IT)
R597	1-216-025-00	METAL CHIP	100	5%	1/10W

< SWITCH >

Ref. No.	Part No.	Description	Remark
⚠S901	1-572-675-11	SWITCH, POWER VOLTAGE CHANGE (VOLTAGE SELECTOR)	(E, AUS, EA, MY, SP, JE)

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*	A-4369-320-A	POWER BOARD, COMPLETE	(US, CND)
*	A-4369-323-A	POWER BOARD, COMPLETE	(E, AUS, EA, MY, SP, JE)
*	A-4369-326-A	POWER BOARD, COMPLETE	(G, IT)
*	A-4369-329-A	POWER BOARD, COMPLETE	(AEP, UK)

< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C881	1-126-023-11	ELECT	100uF	20%	16V
C882	1-126-022-11	ELECT	47uF	20%	16V
C900	1-164-159-11	CERAMIC	0.1uF		50V
C901	1-126-029-11	ELECT	3300uF	20%	25V
C902	1-124-556-11	ELECT	2200uF	20%	16V
C903	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C904	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C905	1-136-165-00	FILM	0.1uF	5%	50V
C906	1-136-165-00	FILM	0.1uF	5%	50V
C907	1-136-165-00	FILM	0.1uF	5%	50V
C950	1-164-159-11	CERAMIC	0.1uF		50V
C951	1-126-029-11	ELECT	3300uF	20%	25V
C961	1-124-122-11	ELECT	100uF	20%	50V
C962	1-124-122-11	ELECT	100uF	20%	50V
C963	1-124-122-11	ELECT	100uF	20%	50V
C964	1-124-122-11	ELECT	100uF	20%	50V
C965	1-126-890-11	ELECT	10uF	20%	100V
C966	1-126-890-11	ELECT	10uF	20%	100V
C967	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C968	1-163-038-00	CERAMIC CHIP	0.1uF		25V
⚠C991	1-161-743-00	CERAMIC	0.0047uF		400V (US, CND, E, G, IT, AUS, EA, MY, SP, JE)
⚠C991	1-162-599-12	CERAMIC	0.0047uF	20%	400V (AEP, UK)
C992	1-126-301-11	ELECT	1uF	20%	50V
C993	1-124-478-11	ELECT	100uF	20%	25V

< CONNECTOR >

Ref. No.	Part No.	Description	Remark
* CN821	1-573-266-41	PIN, CONNECTOR 7P	
* CN822	1-573-265-31	PIN, CONNECTOR 6P	
* CN901	1-580-230-11	PIN, CONNECTOR (PC BOARD) 3P	
CN902	1-564-321-00	PIN, CONNECTOR 2P	
CN903	1-564-321-00	PIN, CONNECTOR 2P	
CN904	1-564-687-11	PIN, CONNECTOR 3P	(E, AUS, EA, MY, SP, JE)
* CN905	1-506-503-11	PIN, CONNECTOR 9P	
* CN906	1-573-264-21	PIN, CONNECTOR 5P	
* CN907	1-573-264-11	PIN, CONNECTOR 5P	
⚠CNJ902	1-526-794-11	OUTLET, AC	(EXCEPT US, CND)
⚠CNJ902	1-526-882-00	OUTLET, AC	(US, CND)
⚠CNJ903	1-526-794-11	OUTLET, AC	(EXCEPT US, CND)
⚠CNJ903	1-526-882-00	OUTLET, AC	(US, CND)

< DIODE >

Ref. No.	Part No.	Description	
D881	8-719-016-74	DIODE	1SS352
D882	8-719-016-74	DIODE	1SS352
D901	8-719-200-82	DIODE	11ES2
D902	8-719-200-82	DIODE	11ES2
D903	8-719-200-82	DIODE	11ES2
D904	8-719-200-82	DIODE	11ES2
D905	8-719-200-82	DIODE	11ES2
D906	8-719-200-82	DIODE	11ES2
D907	8-719-200-82	DIODE	11ES2
D908	8-719-200-82	DIODE	11ES2
D961	8-719-200-82	DIODE	11ES2
D962	8-719-200-82	DIODE	11ES2
D963	8-719-200-82	DIODE	11ES2
D964	8-719-200-82	DIODE	11ES2

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
D965	8-719-022-80	DIODE UZM-36Z	
D966	8-719-022-80	DIODE UZM-36Z	
D967	8-719-015-99	DIODE UZP-27BB	
D968	8-719-200-82	DIODE 11ES2	
D991	8-719-016-74	DIODE 1SS352	
D992	8-719-016-74	DIODE 1SS352	
D993	8-719-200-82	DIODE 11ES2	
D994	8-719-016-74	DIODE 1SS352	

< FUSE >

Ref. No.	Part No.	Description	Remark
⚠F905	1-532-286-00	FUSE, TIME-LAG (T2.5A)(EXCEPT US,CND)	
⚠F906	1-532-299-00	FUSE, TIME-LAG (T5A)(EXCEPT US,CND)	
⚠F906	1-532-747-11	FUSE, GLASS TUBE (5A/125V)(US,CND)	
⚠F907	1-532-299-00	FUSE, TIME-LAG (T5A)(EXCEPT US,CND)	
⚠F907	1-532-747-11	FUSE, GLASS TUBE (5A/125V)(US,CND)	

< FERRITE BEAD >

Ref. No.	Part No.	Description	Remark
FB901	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH	
FB951	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH	
FB991	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH (EXCEPT US,CND)	
FB992	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH (EXCEPT US,CND)	

< FUSE HOLDER >

Ref. No.	Part No.	Description	Remark
* FH905	1-533-293-11	FUSE HOLDER (EXCEPT US,CND)	
* FH906	1-533-293-11	FUSE HOLDER	
* FH907	1-533-293-11	FUSE HOLDER	
* FH915	1-533-293-11	FUSE HOLDER (EXCEPT US,CND)	
* FH916	1-533-293-11	FUSE HOLDER	
* FH917	1-533-293-11	FUSE HOLDER	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q881	8-729-602-21	TRANSISTOR 2SC4154-F	
Q882	8-729-602-21	TRANSISTOR 2SC4154-F	
Q883	8-729-602-21	TRANSISTOR 2SC4154-F	
Q884	8-729-602-21	TRANSISTOR 2SC4154-F	
Q885	8-729-602-36	TRANSISTOR 2SA1602-F	
Q886	8-729-602-36	TRANSISTOR 2SA1602-F	
Q887	8-729-805-41	TRANSISTOR 2SC3398	
Q901	8-729-602-21	TRANSISTOR 2SC4154-F	
Q902	8-729-022-53	TRANSISTOR 2SC2958-KLM	
Q903	8-729-805-41	TRANSISTOR 2SC3398	
Q904	8-729-022-53	TRANSISTOR 2SC2958-KLM	
Q995	8-729-602-21	TRANSISTOR 2SC4154-F	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R823	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R873	1-216-091-00	METAL CHIP 56K 5% 1/10W	
⚠R881	1-247-743-11	CARBON 220 5% 1/2W	F
⚠R882	1-247-743-11	CARBON 220 5% 1/2W	F
R883	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R884	1-216-308-00	METAL CHIP 4.7 5% 1/10W	
R885	1-216-091-00	METAL CHIP 56K 5% 1/10W	
R886	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R887	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R888	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R889	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R890	1-216-073-00	METAL CHIP 10K 5% 1/10W	
⚠R901	1-219-119-81	FUSIBLE 0.1 5% 1/4W	F
⚠R902	1-219-119-81	FUSIBLE 0.1 5% 1/4W	F
⚠R919	1-219-136-11	FUSIBLE 0.22 5% 1/4W	F
R961	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R962	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R963	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R964	1-216-025-00	METAL CHIP 100 5% 1/10W	
R965	1-216-025-00	METAL CHIP 100 5% 1/10W	
R991	1-216-073-00	METAL CHIP 10K 5% 1/10W	
⚠R992	1-247-743-11	CARBON 220 5% 1/2W	F
R993	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R994	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R995	1-216-049-00	METAL CHIP 1K 5% 1/10W	
⚠R996	1-212-875-00	FUSIBLE 56 5% 1/4W	F
R997	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R999	1-202-725-00	SOLID 3.3M 10% 1/2W	(US,CND)

< RELAY >

Ref. No.	Part No.	Description	Remark
RY881	1-515-921-11	RELAY (12V)	
RY882	1-515-621-11	RELAY	
⚠RY991	1-515-738-11	RELAY, POWER	
RY992	1-515-921-11	RELAY (12V)	

< TRANSFORMER >

Ref. No.	Part No.	Description	Remark
⚠T901	1-426-646-11	TRANSFORMER, POWER (UK)	
⚠T901	1-426-647-11	TRANSFORMER, POWER (AEP,G,IT)	
⚠T901	1-426-648-11	TRANSFORMER, POWER (E,AUS,EA,MY,SP,JE)	
⚠T901	1-426-649-11	TRANSFORMER, POWER (US,CND)	

****

* 1-650-040-11 REG BOARD

****

< CAPACITOR >

Ref. No.	Part No.	Description	Remark
C191	1-126-096-11	ELECT 10uF 20% 35V	
C192	1-126-157-11	ELECT 10uF 20% 16V	
C193	1-126-096-11	ELECT 10uF 20% 35V	
C194	1-126-157-11	ELECT 10uF 20% 16V	
C195	1-126-157-11	ELECT 10uF 20% 16V	
C196	1-126-157-11	ELECT 10uF 20% 16V	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

REG VOLUME

Ref. No.	Part No.	Description	Remark
		< IC >	
IC155	8-759-158-77	IC TA78057S(LBSONY)	
IC171	8-759-604-39	IC M5F78M12L	
IC172	8-759-604-45	IC M5F79M12L	

****

Ref. No.	Part No.	Description	Remark
*	1-649-569-11	VOLUME BOARD ************	
		< CAPACITOR >	
C491	1-126-059-11	ELECT 10uF 20% 50V	
C492	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
		< CONNECTOR >	
* CN491	1-573-282-11	PIN, CONNECTOR 12P	
* CN492	1-564-499-11	PIN, CONNECTOR 6P	
		< IC >	
IC491	8-759-823-87	IC LB1638M	
		< RESISTOR >	
R491	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R492	1-216-049-00	METAL CHIP 1K 5% 1/10W	
		< VARIABLE RESISTOR >	
RV491	1-223-503-11	RES, VAR, CARBON 20KX5 (VOLUME)	

****

MISCELLANEOUS
****

Ref. No.	Part No.	Description	Remark
6	1-751-949-11	WIRE (FLAT TYPE) (25 CORE)	
12	1-575-733-11	WIRE, FLAT TYPE (17 CORE)	
⚠16	1-751-216-42	LEAD (WITH CONNECTOR) (2 CORE)	
⚠17	1-526-794-11	OUTLET, AC (EXCEPT US, CND)	
⚠17	1-526-882-00	OUTLET, AC (US, CND)	
⚠19	1-575-651-21	CORD, POWER (AEP, G, IT, EA, MY, SP)	
⚠19	1-590-836-11	CORD, POWER (US, CND)	
⚠19	1-696-586-11	CORD, POWER (UK)	
⚠19	1-696-845-11	CORD, POWER (AUS)	
⚠19	1-751-621-11	CORD, POWER (E, JE)	
⚠F905	1-532-286-00	FUSE, TIME-LAG (T2.5A) (AEP, UK, E, G, IT, AUS, EA, MY, SP, JE)	
⚠F906	1-532-299-00	FUSE, TIME-LAG (T5A) (AEP, UK, E, G, IT, AUS, EA, MY, SP, JE)	
⚠F906	1-532-747-11	FUSE, GLASS TUBE (5A/125V)(US, CND)	
⚠F907	1-532-299-00	FUSE, TIME-LAG (T5A) (AEP, UK, E, G, IT, AUS, EA, MY, SP, JE)	
⚠F907	1-532-747-11	FUSE, GLASS TUBE (5A/125V)(US, CND)	
⚠T901	1-426-646-11	TRANSFORMER, POWER (UK)	
⚠T901	1-426-647-11	TRANSFORMER, POWER (AEP, G, IT)	
⚠T901	1-426-648-11	TRANSFORMER, POWER (E, AUS, EA, MY, SP, JE)	
⚠T901	1-426-649-11	TRANSFORMER, POWER (US, CND)	

****

****
HARDWARE LIST
****

#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3
#2	7-682-547-09	SCREW +BVTT 3X6 (S)
#3	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3
#4	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S
#5	7-621-849-00	SCREW, TAPPING
#6	7-685-645-79	SCREW +BVTP 3X6 TYPE2 IT-3

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Sony Corporation
Audio Group

English
94B0997-1
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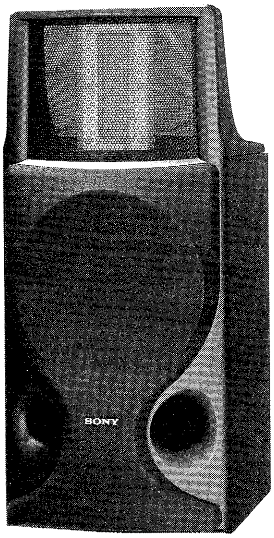
SA-H7900

SERVICE MANUAL



US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model
Tourist Model

This unit is a speaker system for MHC-7900/P100X.

SPECIFICATIONS

Speaker system	Active speaker, 2-way bass reflex
Speaker units	
Woofer:	17 cm dia., Motional Feedback (MFB) system, cone type
Tweeter:	2.5 x 10 cm, electrostatic type
Power requirement	
US, Canadian Model :	120 V AC, 60 Hz
UK Model :	240 V AC, 50 Hz
AEP, German, Italian, Australian Model :	220 – 230 V AC, 50/60 Hz
E, Tourist Model :	110 – 120 V/220 – 240 V AC, 50/60 Hz
Continuous RMS power output	
Woofer:	50 watts (6 ohms at 1 kHz, DIN) 65 watts (6 ohms at 1 kHz, 5% THD) 50 watts (6 ohms at 20 – 2700 Hz, 0.8% THD)
Tweeter:	8 watts (50 ohms at 5 kHz, DIN) 10 watts (50 ohms, at 5 kHz, 5% THD) 8 watts (50 ohms at 2700 – 20 kHz, 0.8% THD)

Music power output	
Woofer:	125 watts (6 ohms at 1 kHz, 10% THD)
Tweeter:	125 watts (6 ohms, at 5 kHz, 10% THD)
Peak music power output	250 + 250 watts
Power consumption	50 watts
Dimensions	Approx. 220 x 500 x 315mm (8 3/4 x 19 3/4 x 12 1/2 inches) (W/H/D)
Mass	Approx. 9.6 kg (21 lb 3 oz) net per speaker

Supplied accessories

AC power cords (2)
Audio cords (2)

This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

SPEAKER SYSTEM

SONY®

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

Flexible Circuit Board Repairing

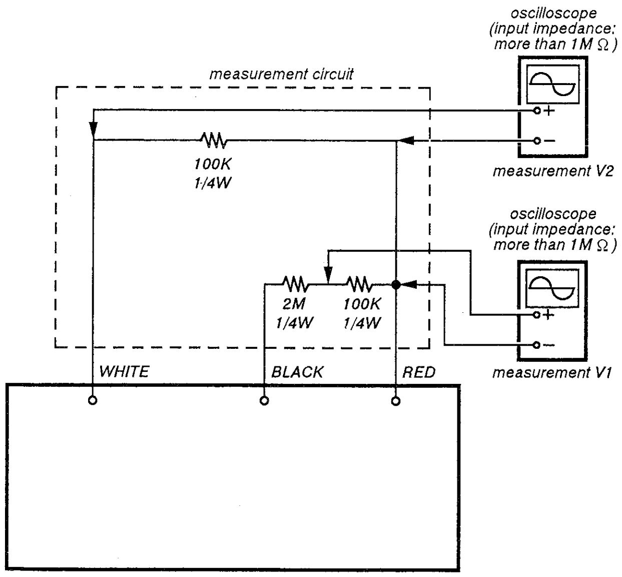
- Keep the temperature of the soldering iron around 270°C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SECTION 1
OPERATION CHECK OF BIAS BLOCK

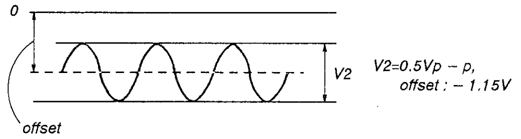
Setting :

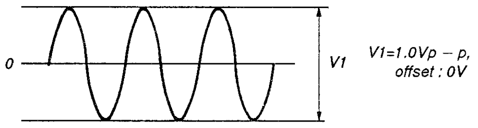

oscilloscope
(input impedance: more than 1M Ω)
measurement circuit
100K
1/4W
measurement V2
oscilloscope
(input impedance: more than 1M Ω)
2M
1/4W
100K
1/4W
WHITE
BLACK
RED
measurement V1

[BIAS BOARD] (Component side)

Checking method :

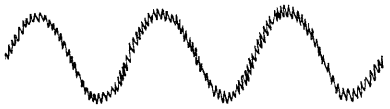
1. Input 5kHz, − 46dBm from SG.
2. Confirm the output waveform with an oscilloscope.


0
V2
V2=0.5Vp − p,
offset : − 1.15V
offset


0
V1
V1=1.0Vp − p,
offset : 0V

※ Since V1 and V2 are high impedance, noise (hum component) may easily occur, but this is not an abnormality.

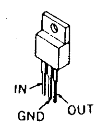
example :



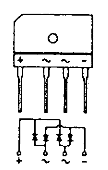
SECTION 2
DIAGRAMS

• SEMICONDUCTOR LEAD LAYOUTS

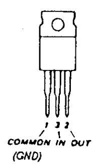
M5F7815



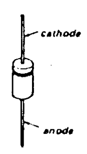
D2SBA20F03
RBA-402



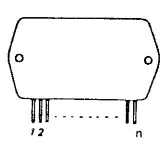
M5F7915


1 2 3
COMMON IN OUT
(GND)

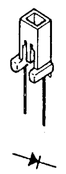
UZP-15BC-TP
1N4148M


cathode
anode

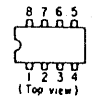
SKT401-100B



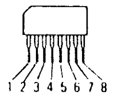
SEL3510C-CD



TL072ACP


8 7 6 5
1 2 3 4
(Top view)

µ PC1237HA



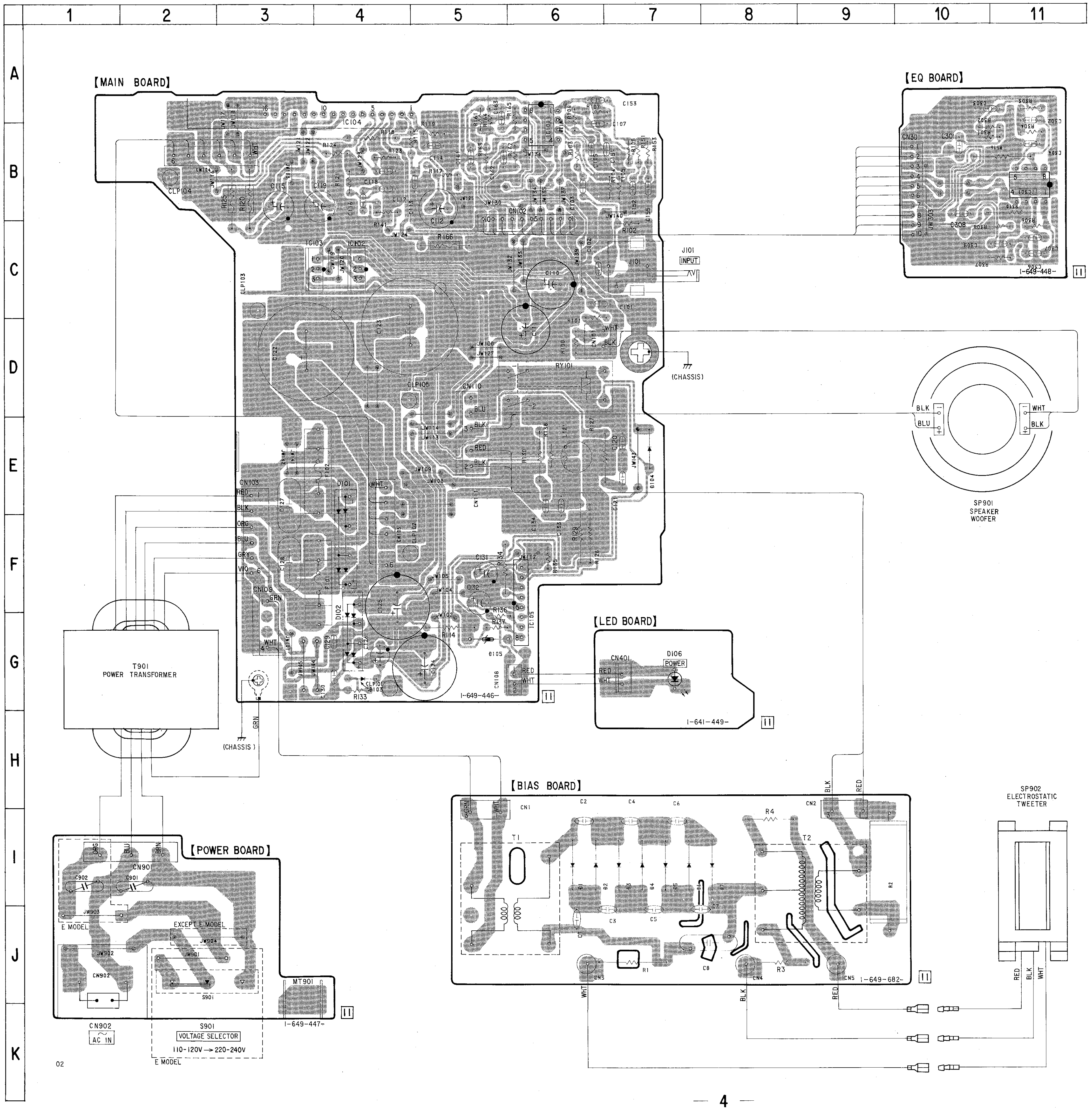
• SEMICONDUCTOR LOCATION

Ref. No.	Location
D1	I-6
D2	I-6
D3	I-7
D4	I-7
D5	I-7
D6	I-7
D7	I-8
D101	F-4
D102	G-4
D103	G-4
D104	E-7
D105	G-5
D106	G-7
IC101	B-6
IC102	C-4
IC103	C-4
IC104	A-4
IC105	F-6
IC301	B-11

Note:

- ○— : parts extracted from the component side.
- ░░░ : Pattern on the side which is seen.

2-1. PRINTED WIRING BOARDS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11
A
B
C
D
E
F
G
H
I
J
K
【MAIN BOARD】
1-649-446-
11
J101
INPUT
(CHASSIS)
RY101
CN103
RED
BLK
ORG
BLU
GRY
VIO
CN108
GRN
WHT
T901
POWER TRANSFORMER
GRN
(CHASSIS)
【EQ BOARD】
CN301
IC301
1-649-448-
11
BLK
BLU
WHT
BLK
SP901
SPEAKER
WOOFER
【LED BOARD】
CN401
D106
POWER
RED
WHT
1-641-449-
11
【BIAS BOARD】
CN1
CN2
T1
T2
R4
R1
R3
C8
CN3
CN4
CN5
BLK
RED
WHT
1-649-682-
11
SP902
ELECTROSTATIC
TWEETER
RED
BLK
WHT
【POWER BOARD】
CN901
C902
C901
JW903
E MODEL
EXCEPT E MODEL
JW904
JW902
JW901
CN902
S901
MT901
1-649-447-
11
CN902
AC IN
S901
VOLTAGE SELECTOR
110-120V → 220-240V
E MODEL
02

2-2. SCHEMATIC DIAGRAM

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27
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A
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C
D
E
F
G
H
【MAIN BOARD】
【EQ BOARD】
IC301
LOW PASS FILTER
HIGH PASS FILTER
SIGNAL IN
IC101
LOW BOOST
MIXAMP
IC104
POWER AMP
IC102
REG
IC103
REG
IC105
PROTECTOR
【BIAS BOARD】
【LED BOARD】
【POWER BOARD】
J101
INPUT
(CHASSIS)
MFB GND
MFB IN
CN101
CN301
CN102
CN110
CN111
CN109
CN103
CN401
CN108
SP901
SPEAKER
WOOFER
MFB
SP902
ELECTROSTATIC
TWEETER
D106
POWER
T901
POWER TRANSFORMER
EXCEPT E MODEL
E MODEL
CN902
AC IN
S901
VOLTAGE SELECTOR
110-120V
220-240V
F101
F102
LOW-GND
CHO-IN
HIGH-GND
+15V
-15V
MIX-GND
LOW-OUT
MIX-OUT
HIGH-OUT
HIGH-GND
+35V
LOW
-35V
HIGH
PGND
LO
LO GND
HO
HO GND
LED (+)
LED (-)
AC
CT
02

8A	US, Canadian MODEL
6.3A	Australia, E, Tourist, Malaysia, Singapore MODEL
5A	AEP, UK, German MODEL

Note :

- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- ▭ : fusible resistor.

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- B+ : B+ Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨

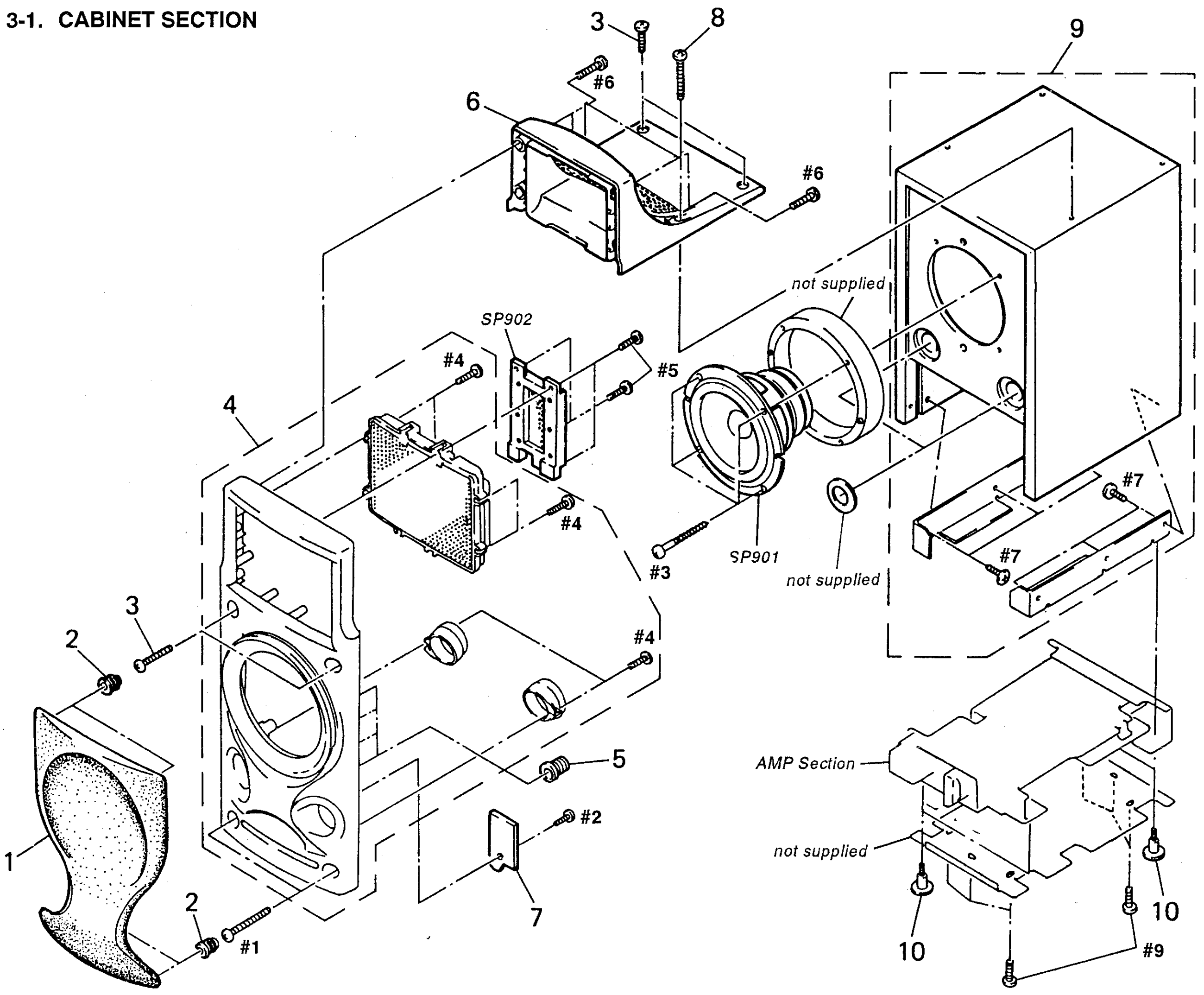
SECTION 3
EXPLODED VIEWS

NOTE :
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " ∗ "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- SP : Singapore
  MY : Malaysia
  G : German
- IT : Italian
  AUS : Australian
  JE : Tourist

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

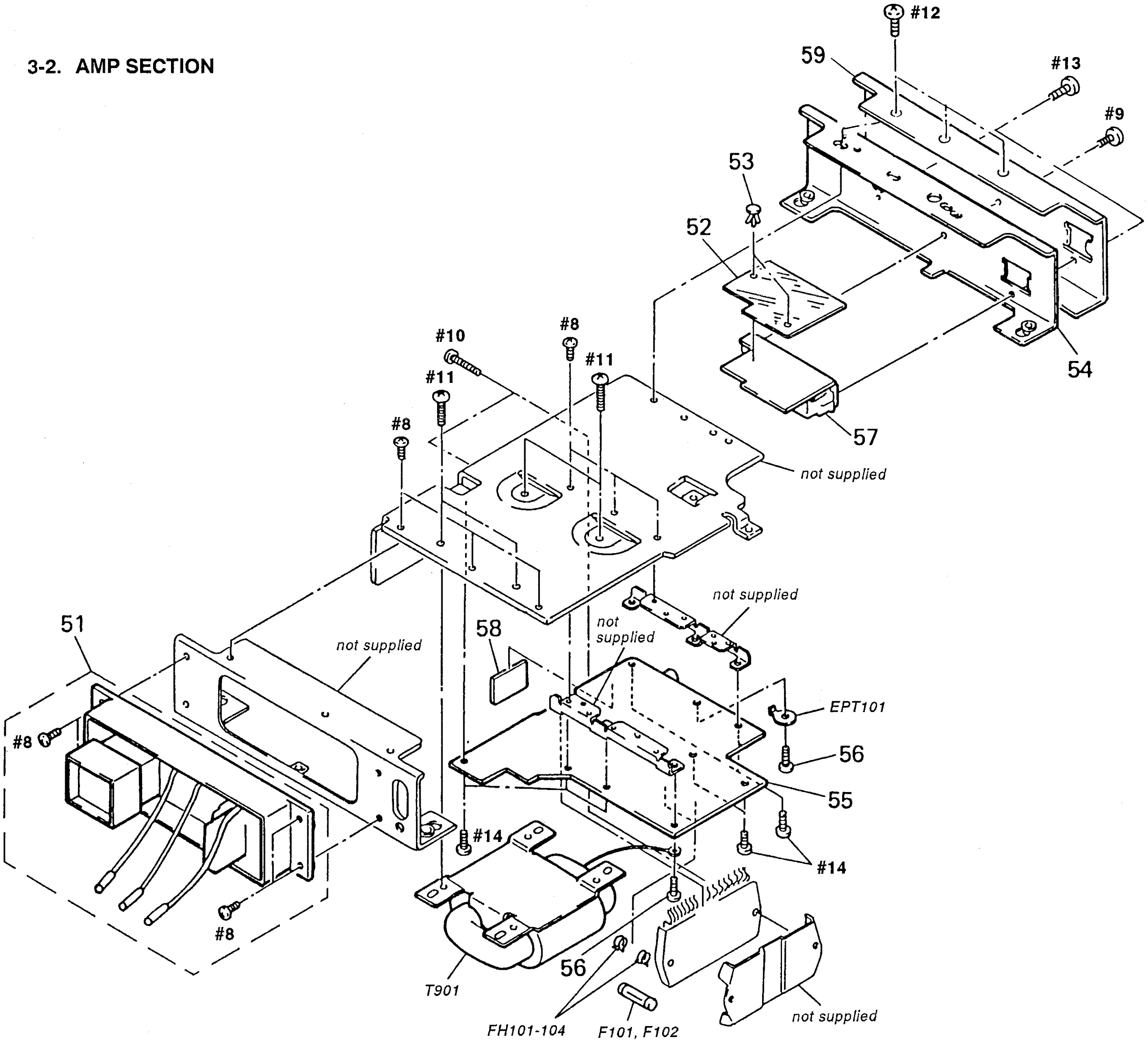
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

3-1. CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	X-4944-031-1	FRAME ASSY, GRILLE	
2	4-912-253-01	CATCHER	
3	4-962-063-01	SCREW	
4	X-4944-030-1	PANEL ASSY, FRONT (AEP, UK, E, SP, MY, G, IT, AUS, JE)	
4	X-4944-290-2	PANEL ASSY, FRONT(US, Canadian)	
∗ 5	4-963-075-01	CATCHER	
6	X-4944-033-1	CABINET ASSY, REAR (AEP, UK, E, SP, MY, G, IT, AUS, JE)	
6	X-4944-293-2	CABINET ASSY, REAR(US, Canadian)	
∗ 7	1-649-449-11	LED BOARD	
8	4-964-224-01	SCREW	
∗ 9	X-4944-032-1	CABINET ASSY, SPEAKER (US, Canadian, UK, E, SP, MY, AUS, JE)	
10	4-962-061-01	SCREW, STEP	
10	X-4944-297-1	CABINET ASSY, SPEAKER(AEP, G, IT)	
SP901	1-504-385-11	WOOFER(EXCEPT E, JE)	
SP901	1-504-532-11	WOOFER(E, JE)	
SP902	1-504-388-11	TWEETER(EXCEPT US, Canadian)	
SP902	1-504-511-11	TWEETER(US, Canadian)	

3-2. AMP SECTION



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
* 51	A-4353-470-A	BIAS BLOCK ASSY (AEP, UK, E, SP, MY, G, IT, AUS, JE)	
* 51	A-4353-808-A	BIAS BLOCK ASSY(US, Canadian)	
* 52	4-962-148-01	SHEET (INSULATED)	
53	4-812-134-11	RIVET NYLON, 3.5	
* 54	4-962-014-11	PANEL, REAR(AEP)	
* 54	4-962-014-21	PANEL, REAR(G, IT)	
* 54	4-962-014-31	PANEL, REAR(UK)	
* 54	4-962-014-41	PANEL, REAR(E, SP, MY, AUS, JE)	
* 54	4-962-014-51	PANEL, REAR(Canadian)	
* 54	4-962-014-61	PANEL, REAR(US)	
* 55	A-4365-406-A	MAIN BOARD, COMPLETE	
56	3-363-099-01	SCREW (CASE 3 TP2)	
* 57	1-649-447-11	POWER BOARD	
* 58	1-649-448-11	EQ BOARD	
* 59	4-966-374-01	COVER(E, SP, MY, AUS, JE)	
* 59	4-966-374-11	COVER(AEP, UK, G, IT)	
* EPT101	4-870-539-00	PLATE, GROUND	
⚠F101	1-532-299-00	FUSE(5A/250V) (E, SP, MY, AUS, JE)	
⚠F101	1-532-506-51	FUSE(6.3A/250V) (AEP, UK, IT)	
⚠F101	1-532-749-11	FUSE, GLASS TUBE(8A/125V) (US, Canadian)	
⚠F102	1-532-299-00	FUSE(5A/250V) (E, SP, MY, AUS, JE)	
⚠F102	1-532-506-51	FUSE(6.3A/250V) (AEP, UK, IT)	
⚠F102	1-532-749-11	FUSE, GLASS TUBE(8A/125V) (US, Canadian)	
* FH101	1-533-293-11	FUSE HOLDER	
* FH102	1-533-293-11	FUSE HOLDER	
* FH103	1-533-293-11	FUSE HOLDER	
* FH104	1-533-293-11	FUSE HOLDER	
⚠T901	1-426-678-11	TRANSFORMER, POWER(US, Canadian)	
⚠T901	1-426-679-11	TRANSFORMER, POWER(UK)	
⚠T901	1-426-680-11	TRANSFORMER, POWER(AEP, G, IT)	
⚠T901	1-426-681-11	TRANSFORMER, POWER(E, SP, MY, AUS, JE)	

SECTION 4
ELECTRICAL PARTS LIST

EQ **LED** **MAIN**

NOTE :
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE : Metal oxide-film resistor
  F : nonflammable
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ , for example :
  uA.... : μ A.... , uPA.... : μ PA....
  uPB.... : μ PB.... , uPC.... : μ PC....
  uPD.... : μ PD....
- CAPACITORS
  uF : μ F
- COILS
  uH : μ H
- SP : Singapore
  MY : Malaysia
  G : German
- IT : Italian
  AUS : Australian
  JE : Tourist

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	1-649-448-11	EQ BOARD			
		********			
	1-751-762-11	CORD, CONNECTION (C)			
	1-751-763-11	CORD, CONNECTION (B)			
	1-751-764-11	CORD, CONNECTION (A)			
		< CAPACITOR >			
C301	1-136-169-00	FILM	0.22uF	5%	50V
C302	1-136-161-00	FILM	0.047uF	5%	50V
C303	1-136-156-00	FILM	0.018uF	5%	50V
C304	1-130-476-00	MYLAR	0.0027uF	5%	50V
C306	1-110-338-51	MYLAR	180PF	5%	50V
C307	1-130-479-00	MYLAR	0.0047uF	5%	50V
C308	1-130-479-00	MYLAR	0.0047uF	5%	50V
C309	1-130-479-00	MYLAR	0.0047uF	5%	50V
		< CONNECTOR >			
* CN301	1-750-970-11	CONNECTOR (L TYPE) 10P			
		< DIODE >			
D1	8-719-018-82	DIODE	RGP02-20EL-6394		
D2	8-719-018-82	DIODE	RGP02-20EL-6394		
D3	8-719-018-82	DIODE	RGP02-20EL-6394		
D4	8-719-018-82	DIODE	RGP02-20EL-6394		
D5	8-719-018-82	DIODE	RGP02-20EL-6394		
D6	8-719-018-82	DIODE	RGP02-20EL-6394		
D7	8-719-018-82	DIODE	RGP02-20EL-6394		
		< IC >			
IC301	8-759-910-83	IC	TL072ACP		
		< RESISTOR >			
R301	1-259-460-11	CARBON	22K	5%	1/6W
R302	1-259-444-11	CARBON	4.7K	5%	1/6W
R303	1-259-444-11	CARBON	4.7K	5%	1/6W
R304	1-259-444-11	CARBON	4.7K	5%	1/6W
R306	1-259-496-11	CARBON	680K	5%	1/6W
R307	1-259-449-11	CARBON	7.5K	5%	1/6W
R308	1-259-444-11	CARBON	4.7K	5%	1/6W
R310	1-259-396-11	CARBON	47	5%	1/6W
R516	1-259-396-11	CARBON	47	5%	1/6W
**					
*	1-649-449-11	LED BOARD			
		*********			
		< CONNECTOR >			
CN401	1-564-517-11	PLUG, CONNECTOR 2P			
		< DIODE >			
D106	8-719-018-46	LED	SEL3510C-CD(POWER)		
**					
*	A-4365-406-A	MAIN BOARD, COMPLETE			
		*******************			
		< CAPACITOR >			
C101	1-136-166-00	FILM	0.12uF	5%	50V
C102	1-110-335-11	MYLAR	100PF	5%	50V
C103	1-136-162-00	FILM	0.056uF	5%	50V
C105	1-136-163-00	FILM	0.068uF	5%	50V
C107	1-130-473-00	MYLAR	0.0015uF	5%	50V
C110	1-124-913-11	ELECT	470uF	20%	50V
C111	1-124-913-11	ELECT	470uF	20%	50V
C112	1-124-122-11	ELECT	100uF	20%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C113	1-130-469-00	MYLAR	680PF	5%	50V
C114	1-136-165-00	FILM	0.1uF	5%	50V
C115	1-124-910-11	ELECT	47uF	20%	50V
C116	1-136-169-00	FILM	0.22uF	5%	50V
C117	1-130-469-00	MYLAR	680PF	5%	50V
C118	1-136-165-00	FILM	0.1uF	5%	50V
C119	1-124-910-11	ELECT	47uF	20%	50V
C120	1-136-165-00	FILM	0.1uF	5%	50V
C121	1-136-165-00	FILM	0.1uF	5%	50V
C122	1-107-575-11	ELECT	6800uF	20%	50V
C123	1-107-575-11	ELECT	6800uF	20%	50V
C124	1-126-105-11	ELECT	1000uF	20%	35V
C125	1-126-105-11	ELECT	1000uF	20%	35V
C126	1-124-257-00	ELECT	2.2uF	20%	50V
C127	1-106-391-12	MYLAR	0.1uF	5%	200V
C128	1-106-391-12	MYLAR	0.1uF	5%	200V
C129	1-136-165-00	FILM	0.1uF	5%	50V
C130	1-136-165-00	FILM	0.1uF	5%	50V
C131	1-124-584-00	ELECT	100uF	20%	10V
C132	1-124-584-00	ELECT	100uF	20%	10V
C133	1-136-165-00	FILM	0.1uF	5%	50V
C134	1-136-165-00	FILM	0.1uF	5%	50V
C151	1-136-163-00	FILM	0.068uF	5%	50V
C152	1-136-159-00	FILM	0.033uF	5%	50V
C153	1-136-154-00	FILM	0.012uF	5%	50V
C155	1-130-479-00	MYLAR	0.0047uF	5%	50V
C161	1-136-165-00	FILM	0.1uF	5%	50V
C162	1-136-165-00	FILM	0.1uF	5%	50V
C163	1-130-477-00	MYLAR	0.0033uF	5%	50V
		< CONNECTOR >			
CN101	1-564-320-00	PIN, CONNECTOR 2P			
* CN103	1-564-243-00	PIN, CONNECTOR 6P			
CN108	1-564-517-11	PLUG, CONNECTOR 2P			
CN109	1-564-241-00	PIN, CONNECTOR 4P			
CN110	1-564-104-00	PIN, CONNECTOR 3P			
CN111	1-564-320-00	PIN, CONNECTOR 2P			
		< DIODE >			
D101	8-719-312-09	DIODE	RBA-402		
D102	8-719-043-53	DIODE	D2SBA20F03		
D103	8-719-987-63	DIODE	1N4148M		
D104	8-719-987-63	DIODE	1N4148M		
D105	8-719-015-53	DIODE	UZP-15BC-TP		
		< PLATE, GROUND >			
* EPT101	4-870-539-00	PLATE, GROUND			

Ref. No.	Part No.	Description				Remark
		< FUSE HOLDER >				
* FH101	1-533-293-11	FUSE HOLDER				
* FH102	1-533-293-11	FUSE HOLDER				
* FH103	1-533-293-11	FUSE HOLDER				
* FH104	1-533-293-11	FUSE HOLDER				
		< IC >				
IC101	8-759-982-03	IC	RC5532DD			
IC102	8-759-231-59	IC	M5F7815			
IC103	8-759-245-87	IC	M5F7915			
IC104	8-749-924-68	IC	STK401-100B			
IC105	8-759-111-68	IC	uPC1237HA			
		< JACK >				
J101	1-750-969-11	JACK, PIN(INPUT)				
		< COIL >				
* L121	1-420-872-00	COIL, AIR CORE				
		< RESISTOR >				
R100	1-259-436-11	CARBON	2.2K	5%	1/6W	
R101	1-259-420-11	CARBON	470	5%	1/6W	
R102	1-259-492-11	CARBON	470K	5%	1/6W	
R103	1-259-428-11	CARBON	1K	5%	1/6W	
R104	1-259-468-11	CARBON	47K	5%	1/6W	
R105	1-259-458-11	CARBON	18K	5%	1/6W	
R106	1-259-472-11	CARBON	68K	5%	1/6W	
R107	1-259-466-11	CARBON	39K	5%	1/6W	
R108	1-259-460-11	CARBON	22K	5%	1/6W	
R114	1-260-093-11	CARBON	330	5%	1/2W	
R115	1-259-434-11	CARBON	1.8K	5%	1/6W	
R117	1-259-448-11	CARBON	6.8K	5%	1/6W	
R118	1-259-466-11	CARBON	39K	5%	1/6W	
R119	1-259-466-11	CARBON	39K	5%	1/6W	
⚠R120	1-212-982-00	FUSIBLE	100	5%	1/2W	F
R121	1-259-428-11	CARBON	1K	5%	1/6W	
R123	1-259-466-11	CARBON	39K	5%	1/6W	
R124	1-259-466-11	CARBON	39K	5%	1/6W	
⚠R125	1-212-982-00	FUSIBLE	100	5%	1/2W	F
R126	1-259-470-11	CARBON	56K	5%	1/6W	
R127	1-260-076-11	CARBON	10	5%	1/2W	
R129	1-259-470-11	CARBON	56K	5%	1/6W	
R130	1-260-076-11	CARBON	10	5%	1/2W	
R133	1-259-428-11	CARBON	1K	5%	1/6W	
R134	1-259-428-11	CARBON	1K	5%	1/6W	
R135	1-259-452-11	CARBON	10K	5%	1/6W	
R136	1-259-470-11	CARBON	56K	5%	1/6W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
R137	1-259-448-11	CARBON 6.8K 5% 1/6W	
R138	1-259-380-11	CARBON 10 5% 1/6W	
R141	1-259-448-11	CARBON 6.8K 5% 1/6W	
R151	1-259-478-11	CARBON 120K 5% 1/6W	
R153	1-259-460-11	CARBON 22K 5% 1/6W	
R161	1-259-472-11	CARBON 68K 5% 1/6W	
R162	1-259-458-11	CARBON 18K 5% 1/6W	
R163	1-259-436-11	CARBON 2.2K 5% 1/6W	
R164	1-259-474-11	CARBON 82K 5% 1/6W	
R165	1-259-494-11	CARBON 560K 5% 1/6W	
⚠R166	1-212-942-00	FUSIBLE 2.2 5% 1/2W	F

< RELAY >

RY101	1-515-676-11	RELAY	

****

*	1-649-447-11	POWER BOARD	

****

< CAPACITOR >

⚠C901	1-162-599-12	CERAMIC 0.0047uF	400V
⚠C902	1-162-599-12	CERAMIC 0.0047uF	400V (E, SP, MY, AUS, JE)

< CONNECTOR >

* CN901	1-564-321-00	PIN, CONNECTOR 2P (US, Canadian, AEP, UK, G, IT)	
* CN901	1-564-687-11	PIN, CONNECTOR 3P(E, SP, MY, AUS, JE)	
⚠CN902	1-526-930-11	INLET, AC(AC IN)(US, Canadian)	
⚠CN902	1-526-931-11	INLET, AC(AC IN) (AEP, UK, E, SP, MY, G, IT, AUS, JE)	

< SWITCH >

⚠S901	1-572-675-11	SWITCH, POWER VOLTAGE CHANGE (VOLTAGE SELECTOR)(E, SP, MY, AUS, JE)	

****

MISCELLANEOUS
****

* EPT101	4-870-539-00	PLATE, GROUND	
⚠F101	1-532-299-00	FUSE(5A/250V)(E, SP, MY, AUS, JE)	
⚠F101	1-532-506-51	FUSE(6.3A/250V)(AEP, UK, IT)	
⚠F101	1-532-749-11	FUSE, GLASS TUBE(8A/125V)(US, Canadian)	
⚠F102	1-532-299-00	FUSE(5A/250V)(E, SP, MY, AUS, JE)	
⚠F102	1-532-506-51	FUSE(6.3A/250V)(AEP, UK, IT)	
⚠F102	1-532-749-11	FUSE, GLASS TUBE(8A/125V)(US, Canadian)	
SP901	1-504-385-11	WOOFER(EXCEPT E, JE)	
SP901	1-504-532-11	WOOFER(E, JE)	

Ref. No.	Part No.	Description	Remark
SP902	1-504-388-11	TWEETER(EXCEPT US, Canadian)	
SP902	1-504-511-11	TWEETER(US, Canadian)	
⚠T901	1-426-678-11	TRANSFORMER, POWER(US, Canadian)	
⚠T901	1-426-679-11	TRANSFORMER, POWER(UK)	
⚠T901	1-426-680-11	TRANSFORMER, POWER(AEP, G, IT)	
⚠T901	1-426-681-11	TRANSFORMER, POWER(E, SP, MY, AUS, JE)	

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ACCESSORIES & PACKING MATERIALS
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⚠	1-575-131-11	CORD, POWER(AEP, E, SP, MY, G, IT, AUS, JE)	
⚠	1-575-706-11	CORD, POWER(US, Canadian)	
	1-751-598-11	CORD, CONNECTION (PIN-PIN) (US, Canadian, AEP, E, SP, MY, G, IT, AUS, JE)	
⚠	1-765-371-11	CORD, POWER(UK)	
	1-765-388-11	CORD, CONNECTION (PIN-PIN)(UK)	
	3-701-940-01	LABEL, BEAB(UK)	
	3-758-615-11	MANUAL, INSTRUCTION(ENGLISH/FRENCH/GERMAN/ITALIAN/SPANISH/DUTCH/SWEDISH/PORTUGUESE/ARABIC/CHINESE/KOREAN)	
	4-889-140-01	BAG, PROTECTION	
*	4-961-905-01	CUSHION (UPPER)	
*	4-961-906-01	CUSHION (LOWER)	
*	4-964-732-01	INDIVIDUAL CARTON(AEP, UK, G, IT, AUS)	
*	4-964-733-01	INDIVIDUAL CARTON(US, Canadian)	
*	4-964-734-01	INDIVIDUAL CARTON(E, SP, MY)	
*	4-966-213-01	INDIVIDUAL CARTON(JE)	

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HARDWARE LIST

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#1	7-682-553-04	SCREW +BVTT 3X20 (S)
#2	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT
#3	7-621-849-50	SCREW, WOOD +R 4.1X40
#4	7-685-647-79	SCREW +P 3X10 TYPE2 NON-SLIT
#5	7-685-650-79	SCREW +P 3X16 TYPE2 NON-SLIT
#6	7-685-663-79	SCREW +BVTP 4X16 TYPE2 IT-3
#7	7-685-162-01	SCREW (4X14), (+) (B) TAPPING
#8	7-682-548-04	SCREW +BVTT 3X8 (S)
#9	7-682-547-09	SCREW +BVTT 3X6 (S)
#10	7-682-552-04	SCREW +BVTT 3X16 (S)
#11	7-682-562-04	SCREW +BVTT 4X10 (S)
#12	7-682-549-04	SCREW +BVTT 3X10 (S)
#13	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#14	7-685-646-79	SCREW +BV 1P 3X8 IT3 CZN

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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Audio Group

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